

FIG. 1

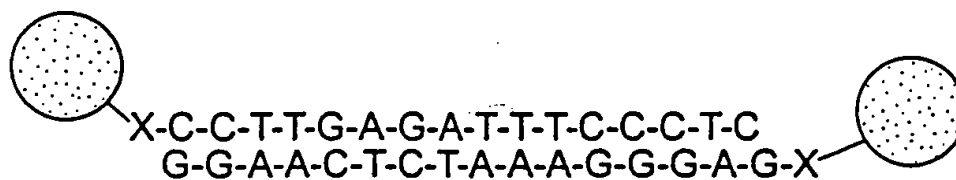
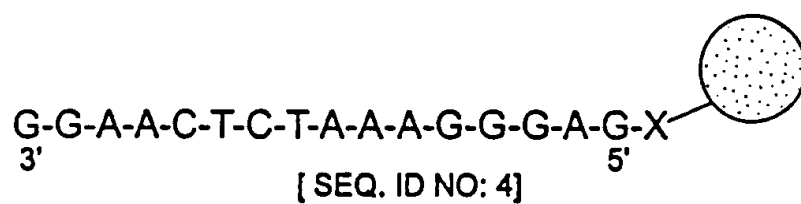
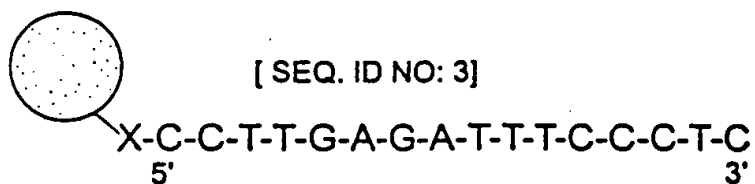
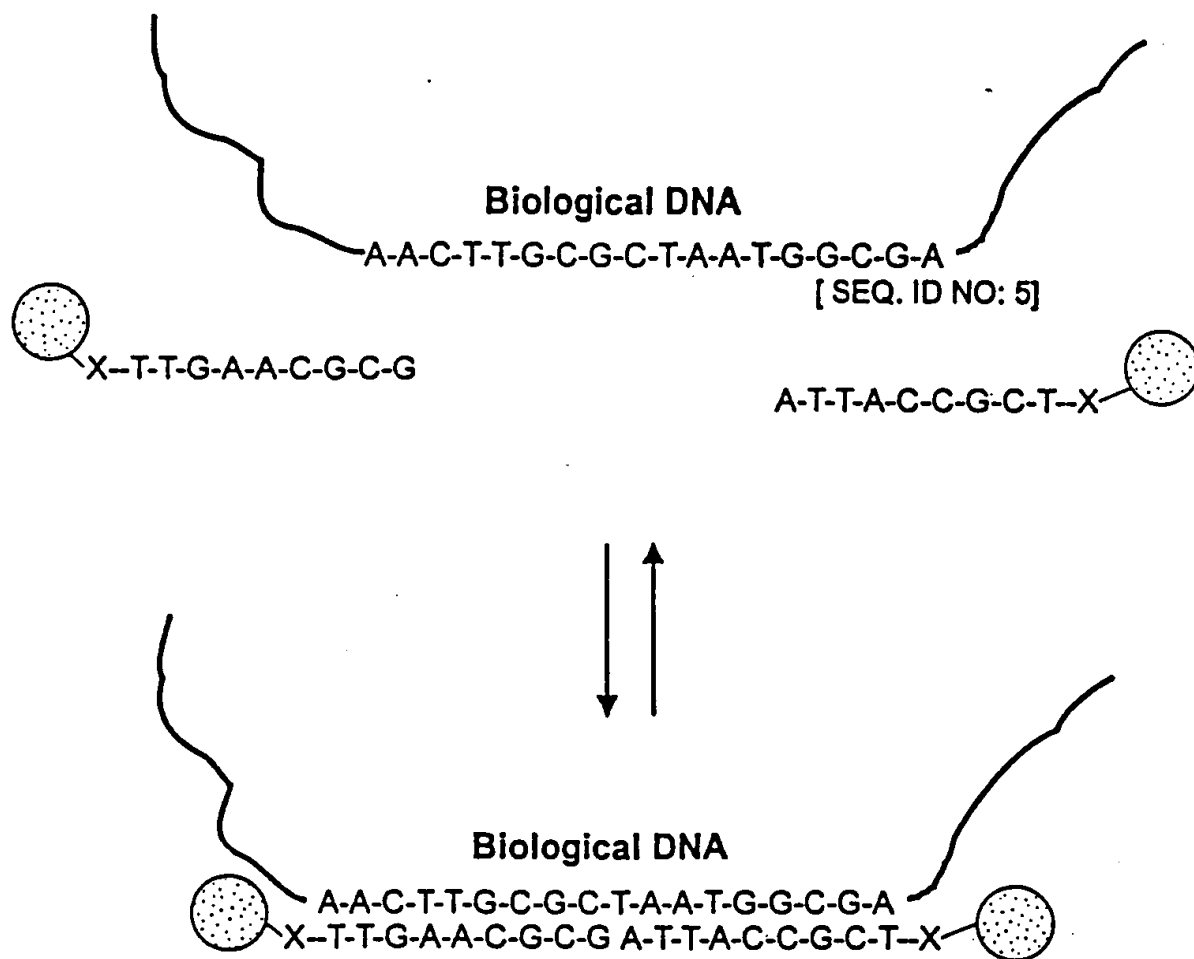
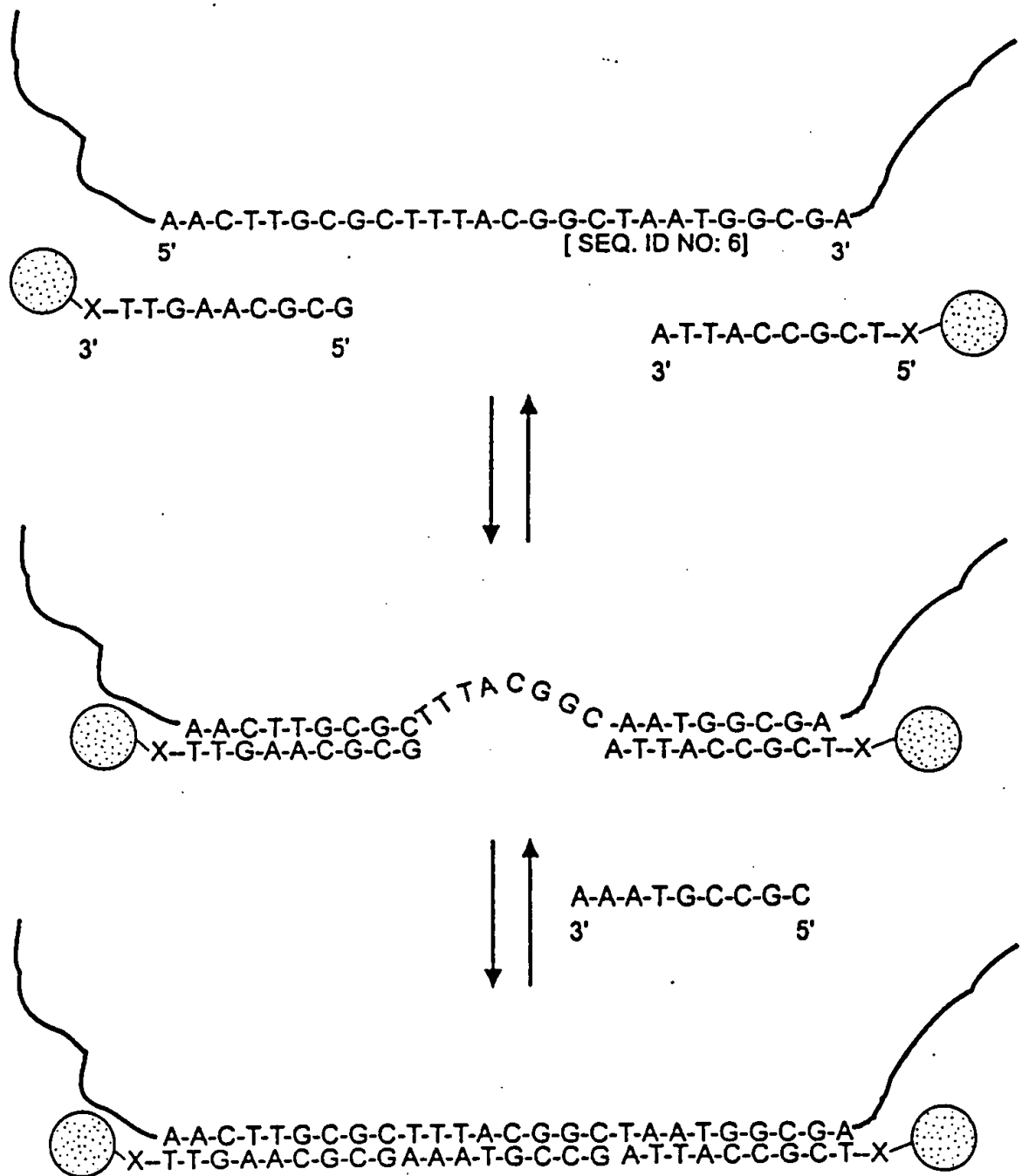


FIG.2



0007501-101301

FIG.3



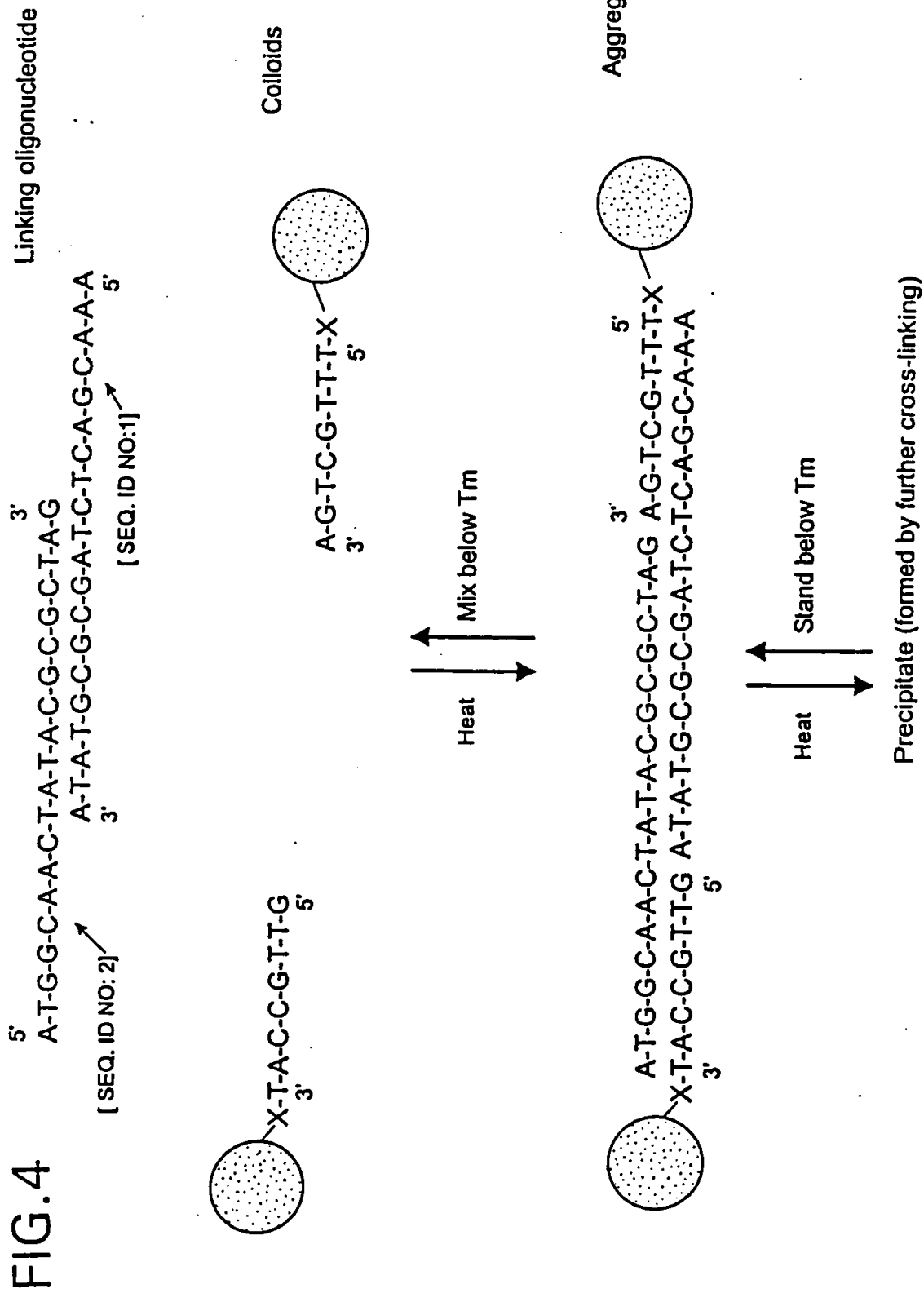
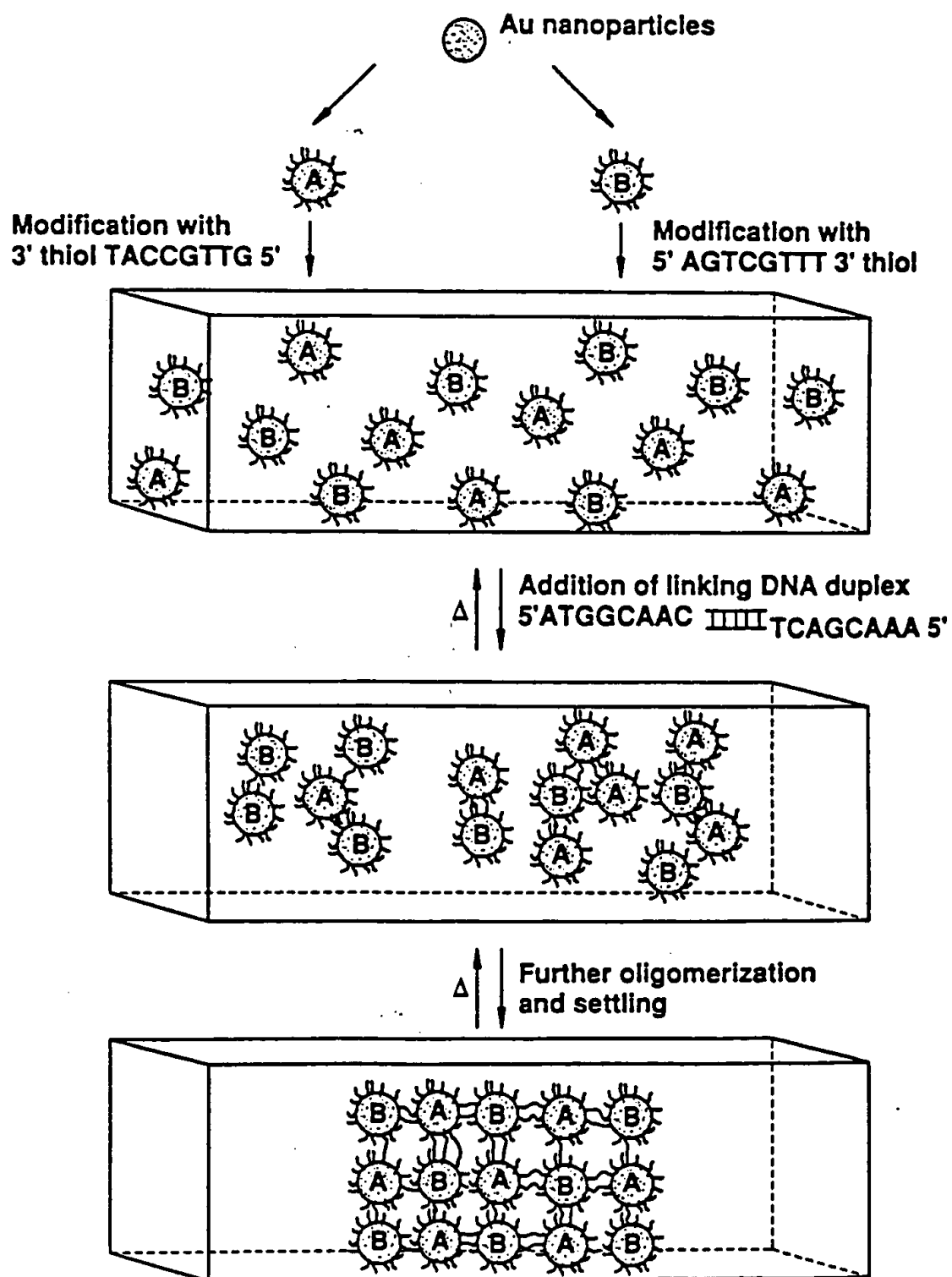


FIG.5



00075501-4004
T000000000

00076544-10434
FIG. 6A FIG. 6B FIG. 6C



FIG. 6A FIG. 6B FIG. 6C

FIG. 7

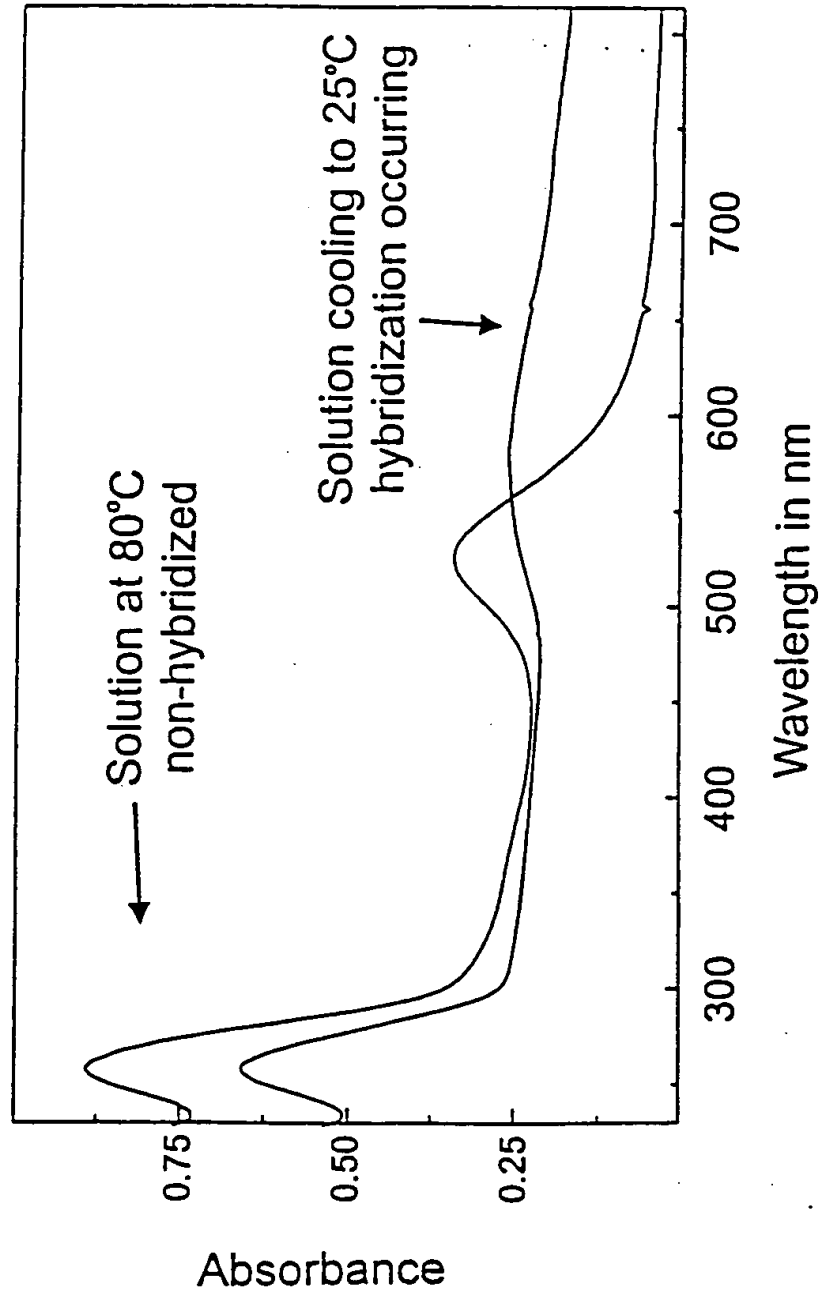


FIG.8A

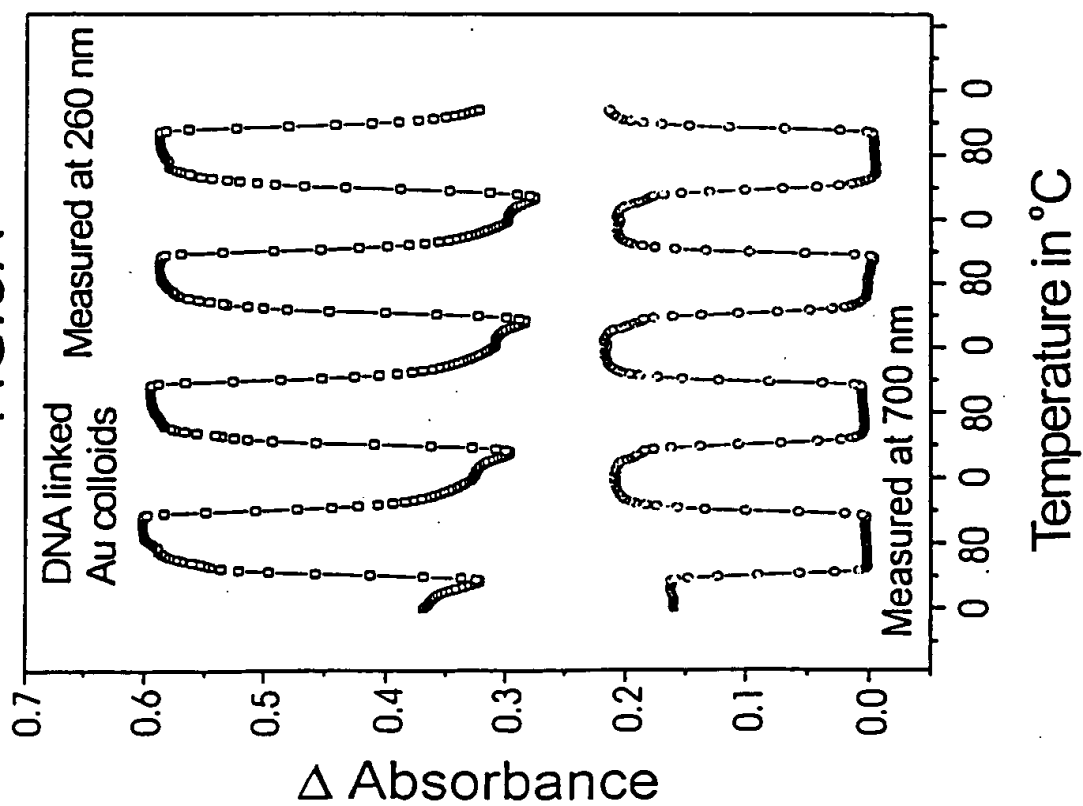
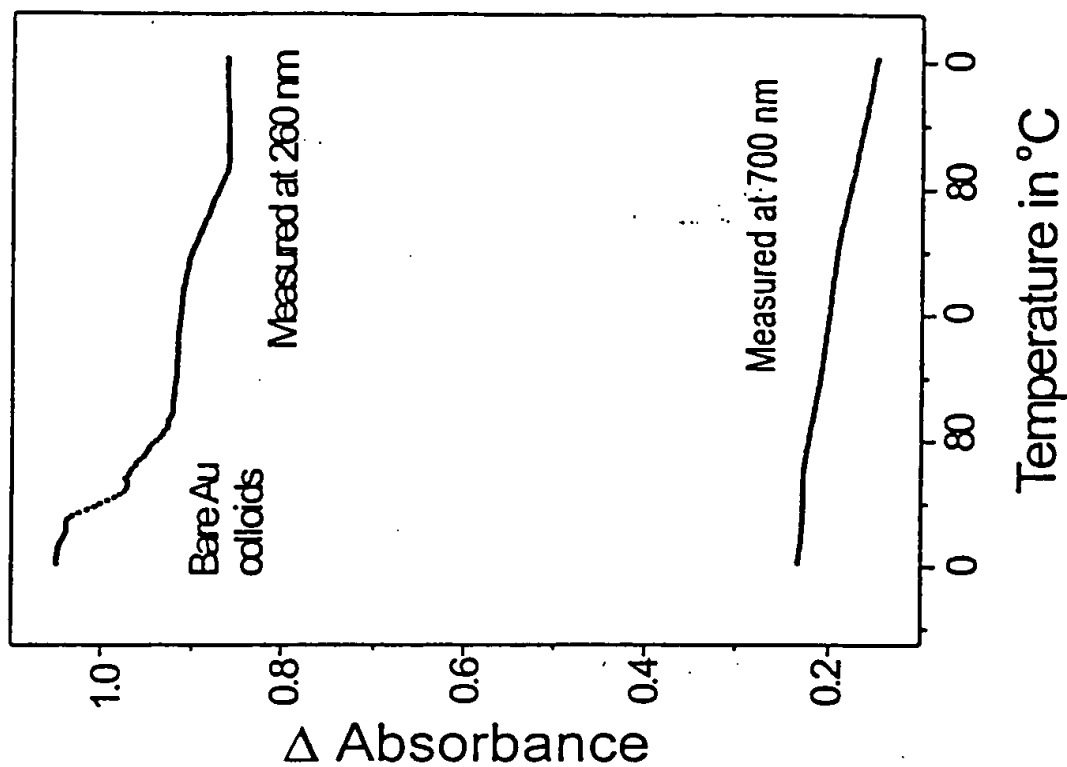


FIG.8B



A high-contrast, black and white photograph of a textured surface, possibly a wall or ceiling. The surface is covered in a dense pattern of small, dark specks and larger, irregular dark patches, giving it a grainy, mottled appearance. A large, dark, irregular shape, resembling a shadow or a hole, dominates the center-left portion of the image. The overall lighting is very bright, causing some areas to appear washed out while others are in deep shadow.

FIG. 9B

FIG.10

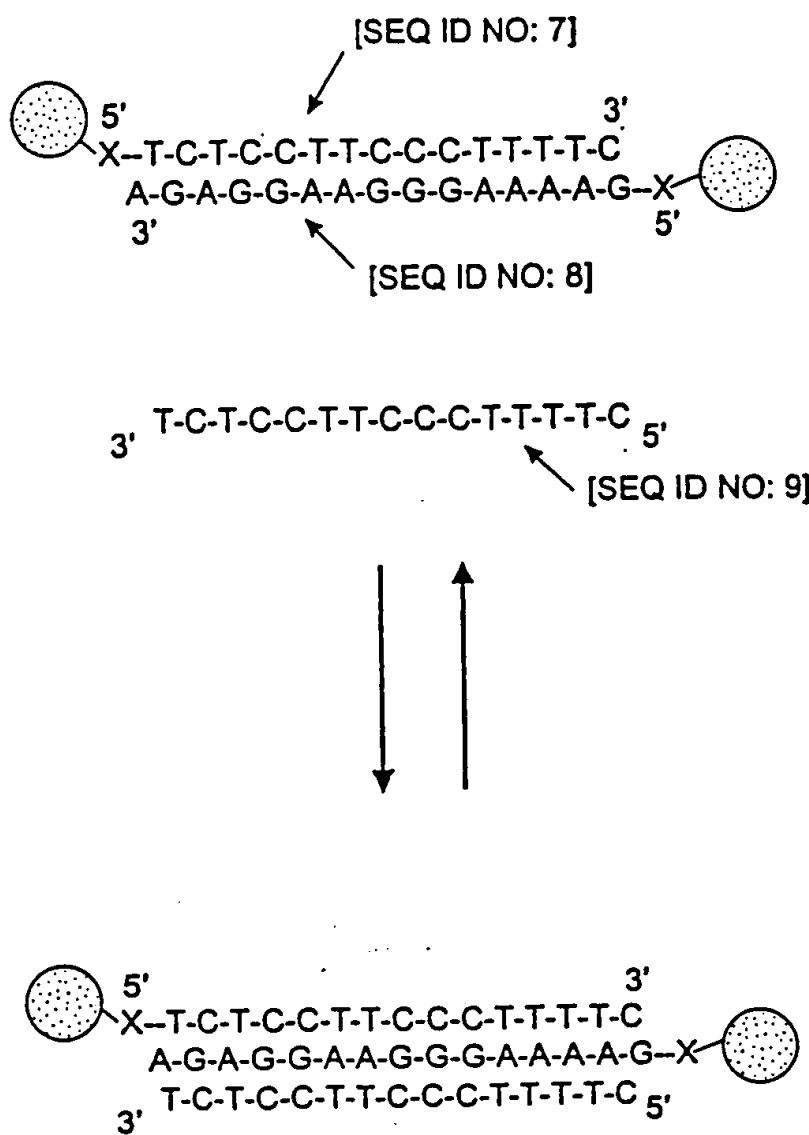


FIG. 11

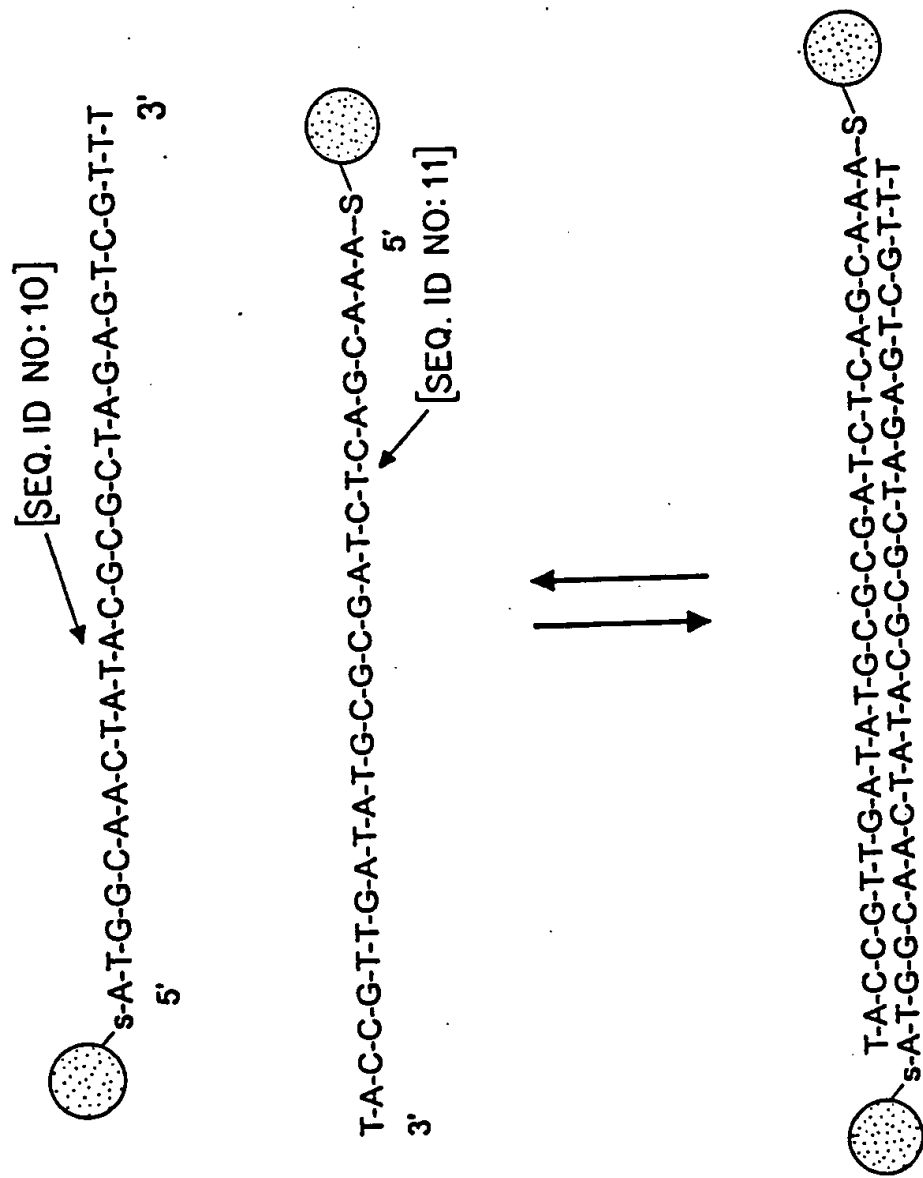


FIG. 12A

Complementary Target

[SEQ. ID NO:12]

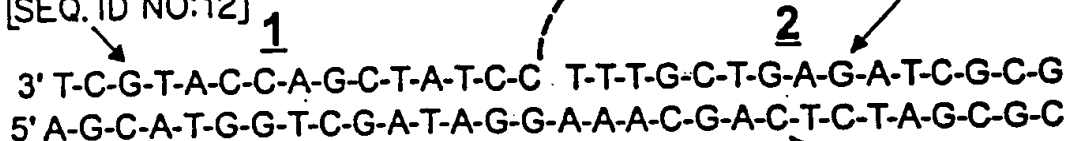


FIG. 12B

Probes without Target

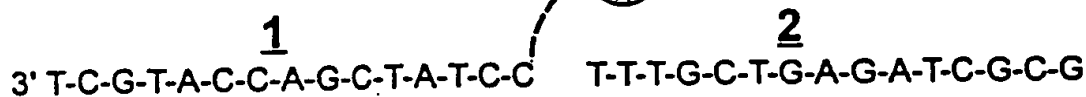


FIG. 12C

Half Complementary Target

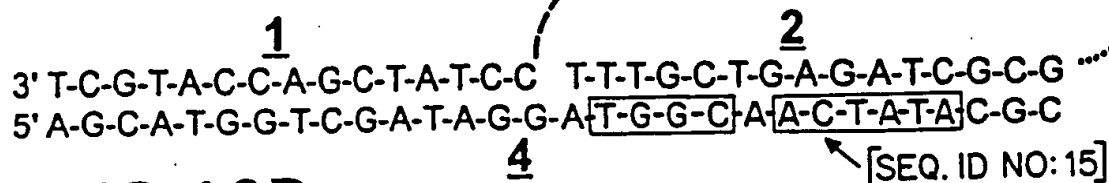


FIG. 12D

Target - 6 bp

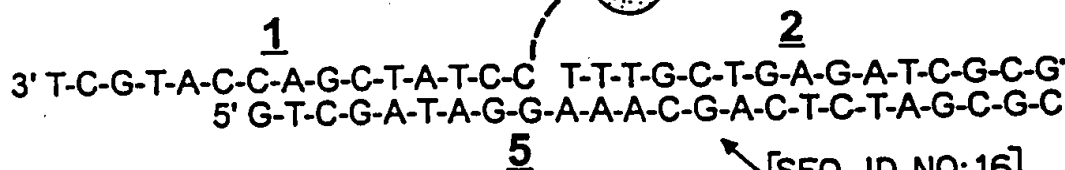


FIG. 12E

One bp Mismatch

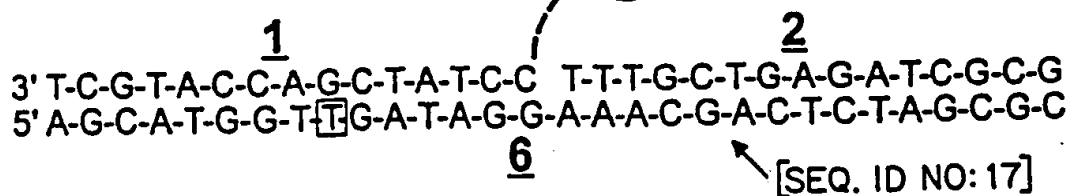


FIG. 12F

Two bp Mismatch

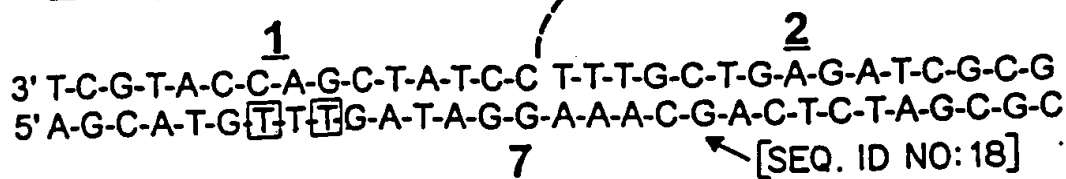


FIG.13A

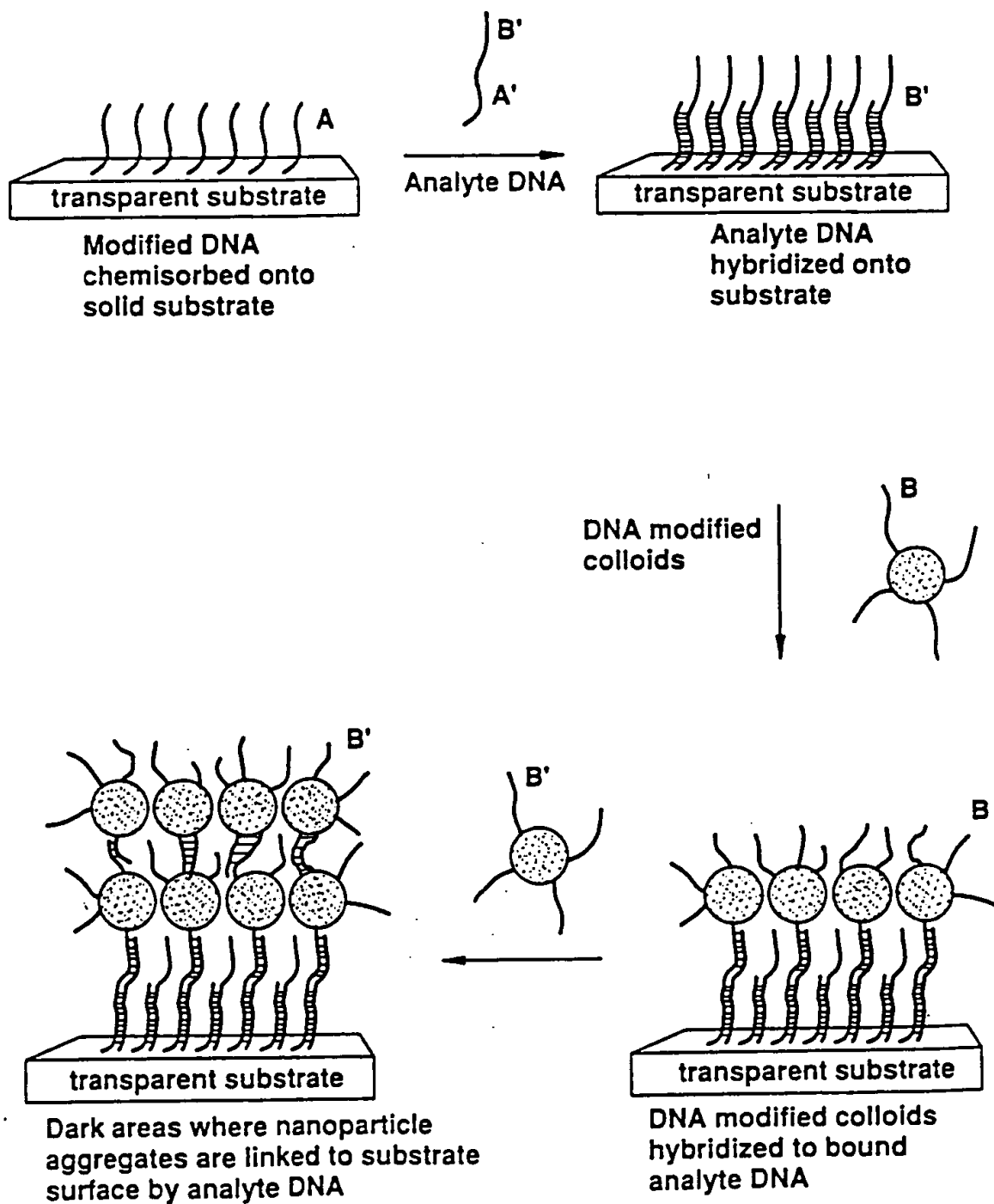


FIG.13B

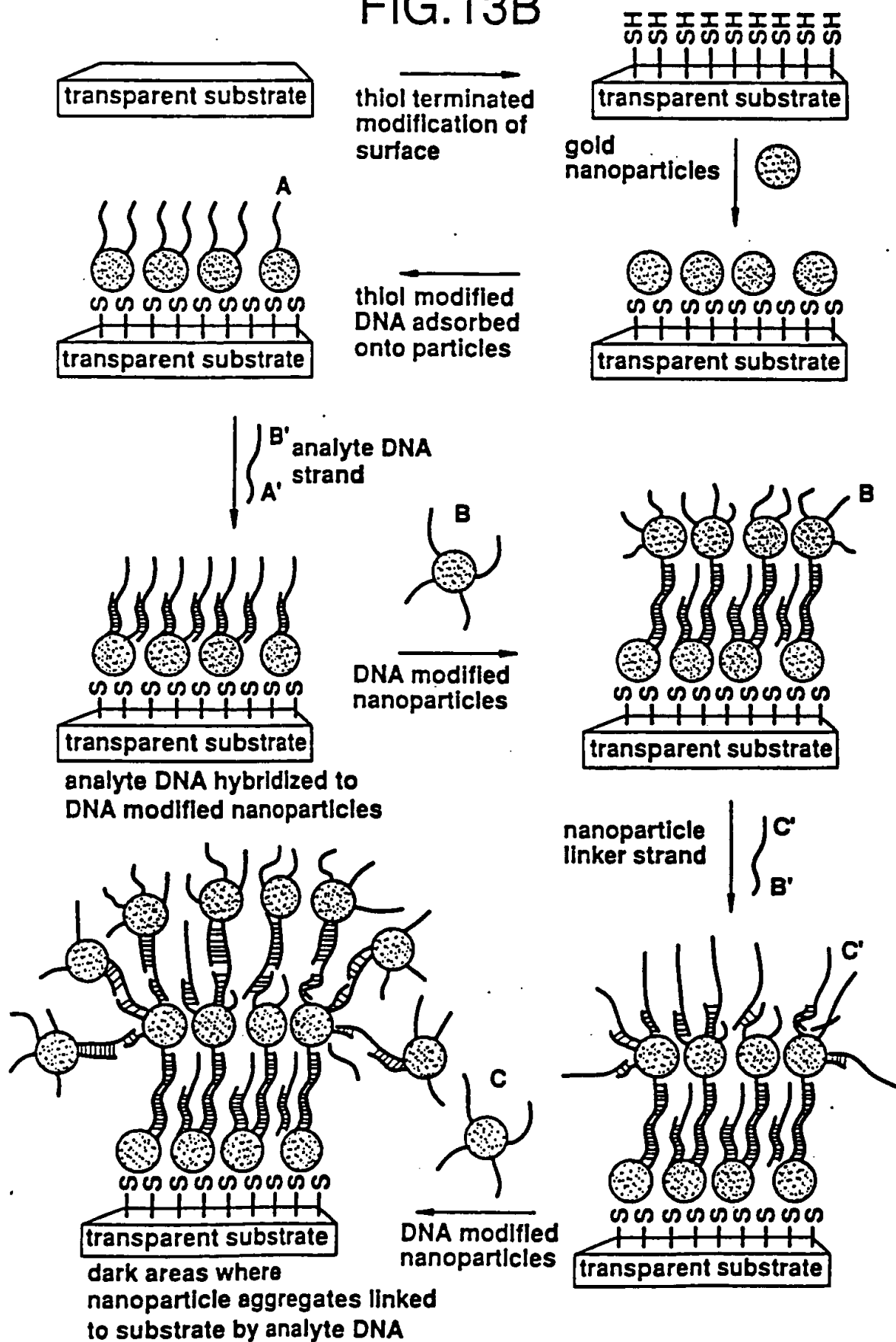


FIG.14A

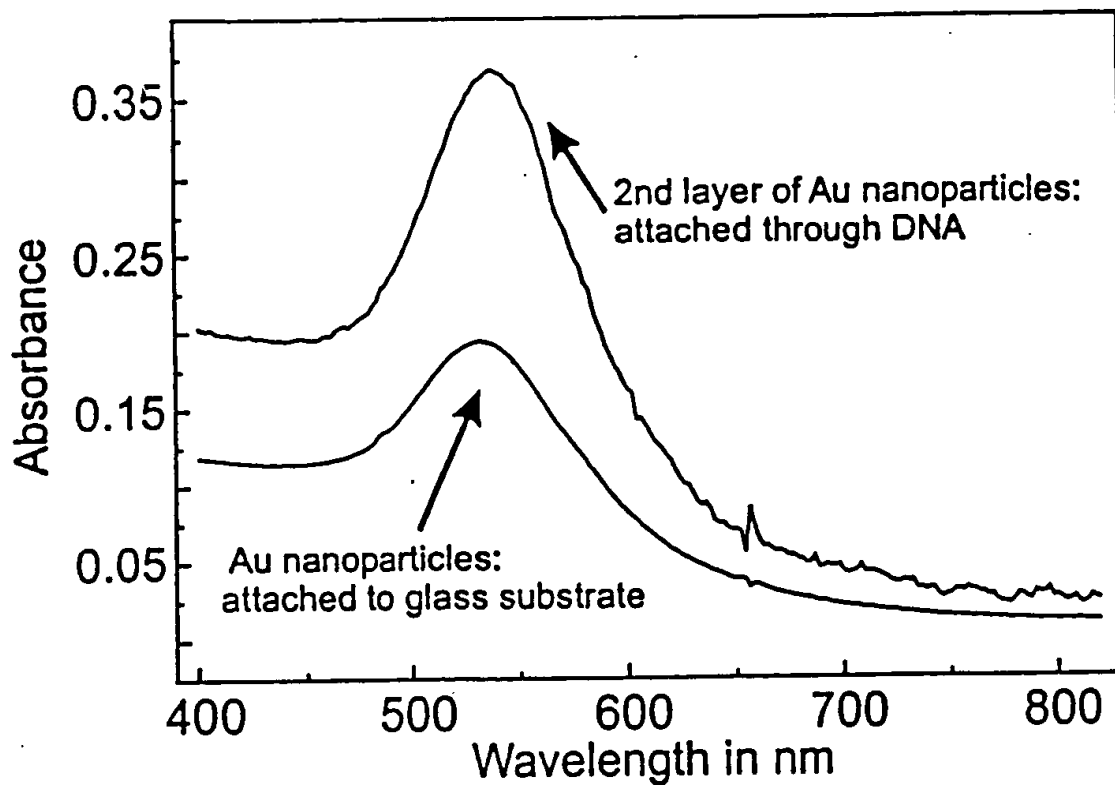


FIG.14B

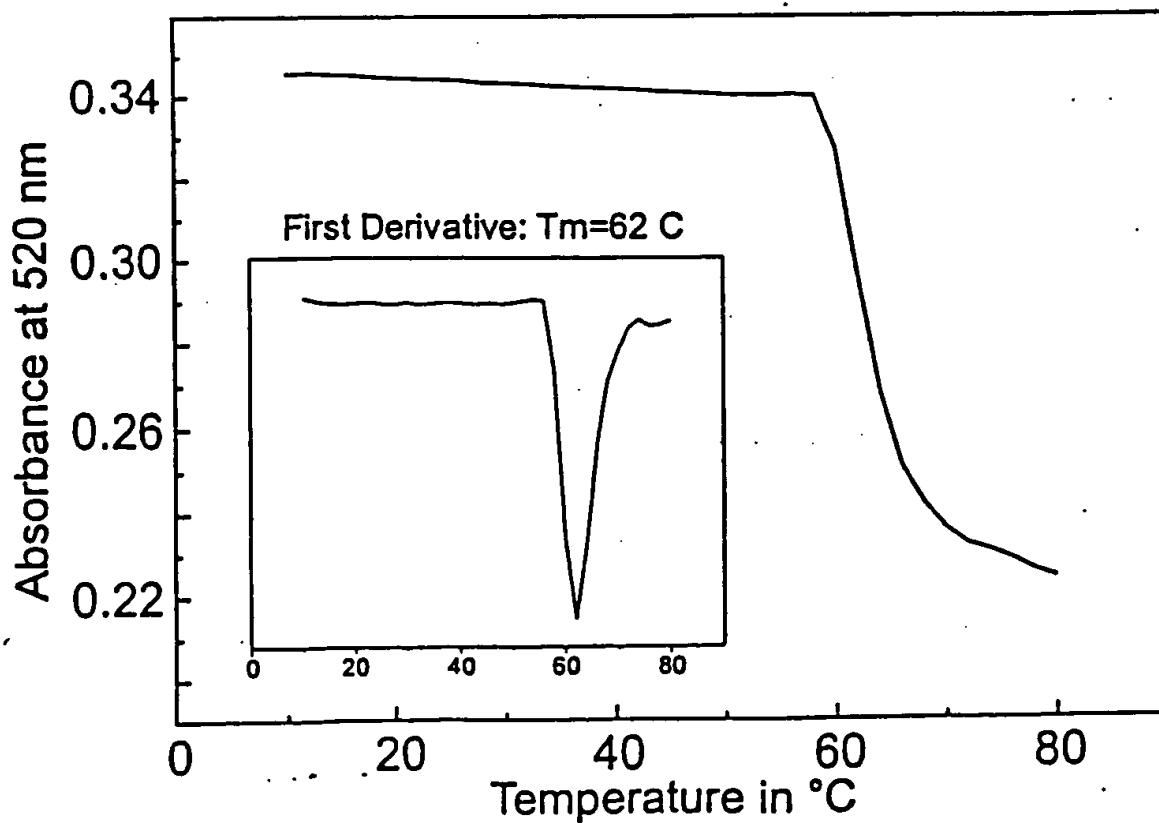


FIG15A

Probes with No Target

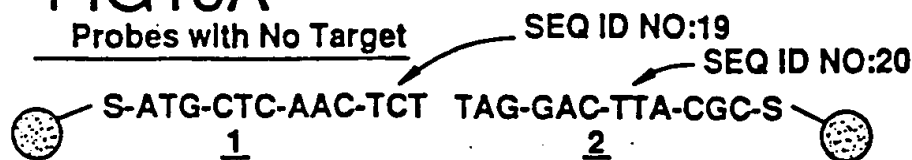


FIG15B

Half-Complementary Target

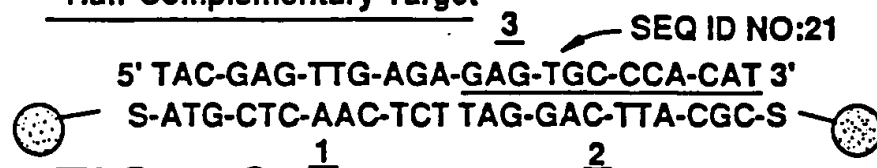


FIG15C

Complementary Target

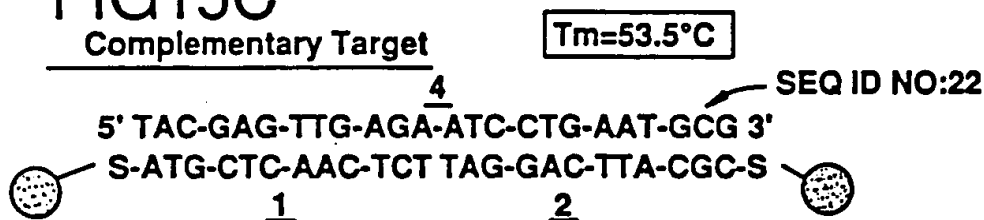


FIG15D

ONE Base-Pair Mismatch at Probe Head

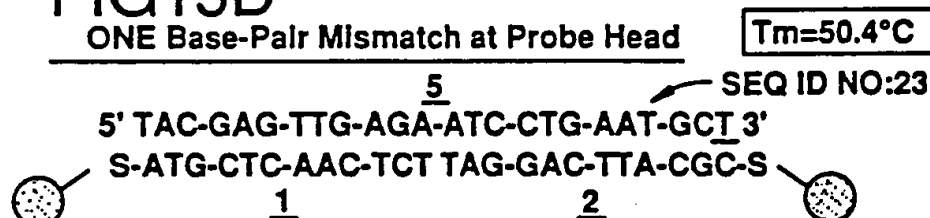


FIG15E

ONE Base-Pair Mismatch at Probe Tail

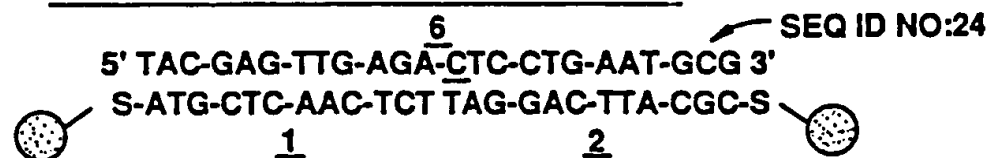


FIG15F

ONE Base Deletion

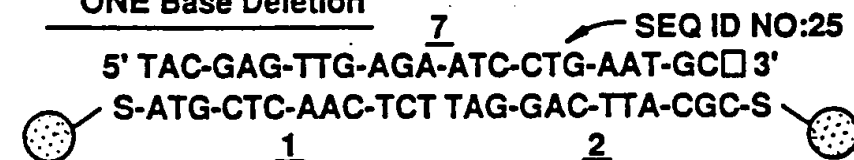


FIG15G

ONE Base-Pair Insertion

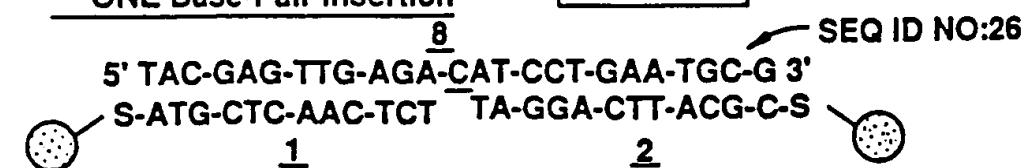


FIG. 16A

24 Base Template

5' TAC-GAG-TTG-AGA-ATC-CTG-AAT-GCG 3'
—S-ATG-CTC-AAC-TCT TAG-GAC-TTA-CGC-S —
1 2

FIG. 16B

48 Base Template with Complementary 24 Base Filler

5' TAC-GAG-TTG-AGA-CCG-TTA-AGA-CGA-GGC-AAT-CAT-GCA-ATC-CTG-AAT-GCG 3'
—S-ATG-CTC-AAC-TCT GGC-AAT-TCT-GCT-CCG-TTA-GTA-CGT TAG-GAC-TTA-CGC-S —
1 2

FIG. 16C

72 Base Template with Complementary 48 Base Filler

5' TAC-GAG-TTG-AGA-CCG-TTA-AGA-CGA-GGC-AAT-CAT-GCA-TAT-ATT-GGA-CGC-TTT-ACG-GAC-AAC-ATC-CTG-AAT-GCG 3'
—S-ATG-CTC-AAC-TCT GGC-AAT-TCT-GCT-CCG-TTA-GTA-CGT-ATA-TAA-CCT-GCG-AAA-TGC-CTG-TTG TAG-GAC-TTA-CGC-S —
1 2

FIG. 17A

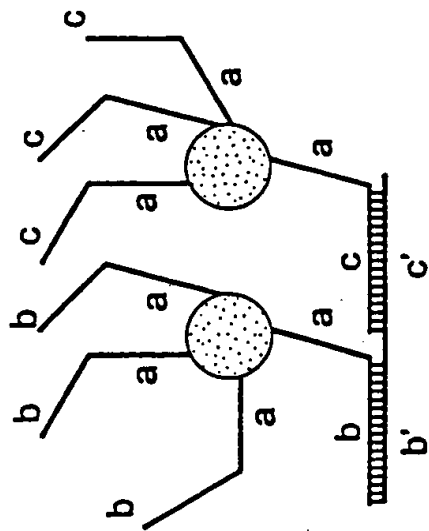


FIG. 17B

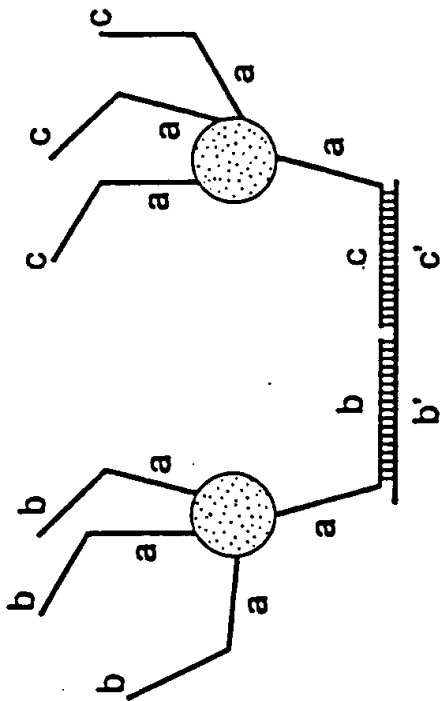


FIG. 17C

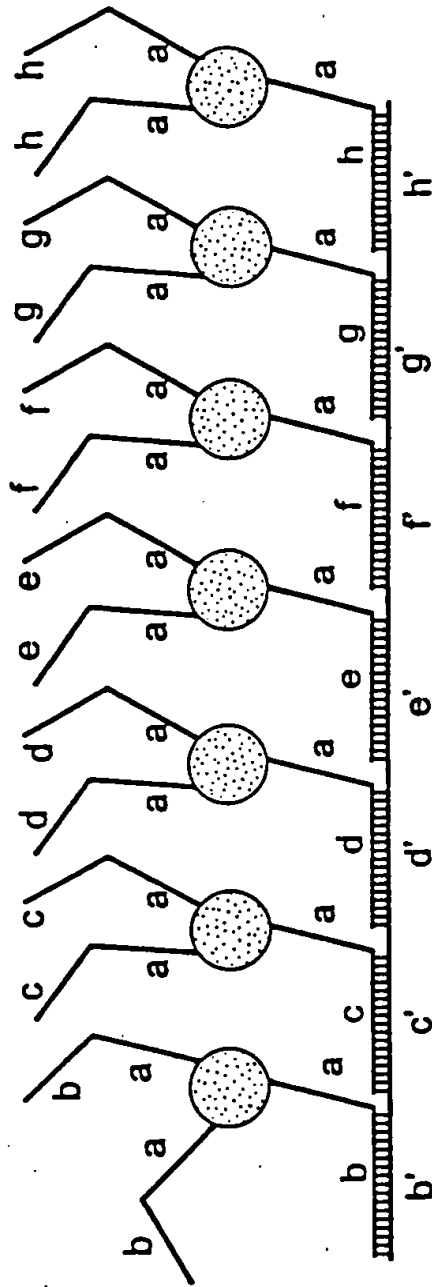


FIG.17D

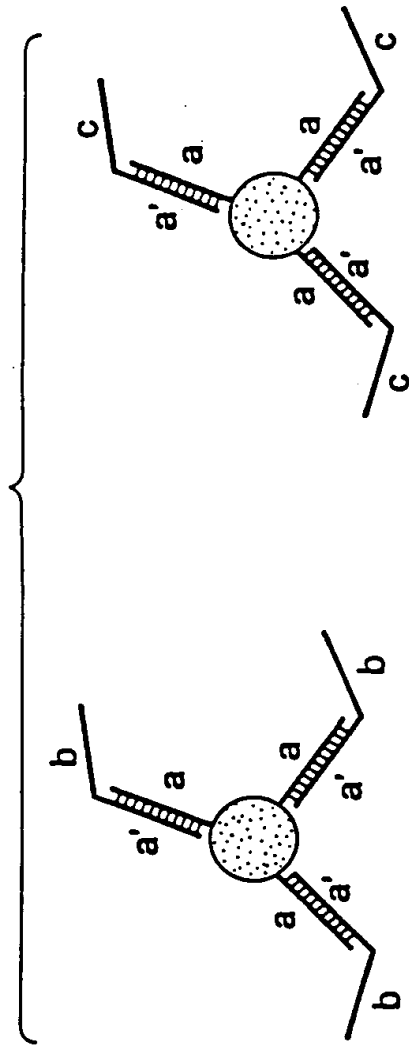
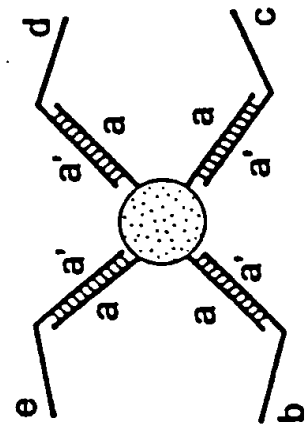


FIG.17E



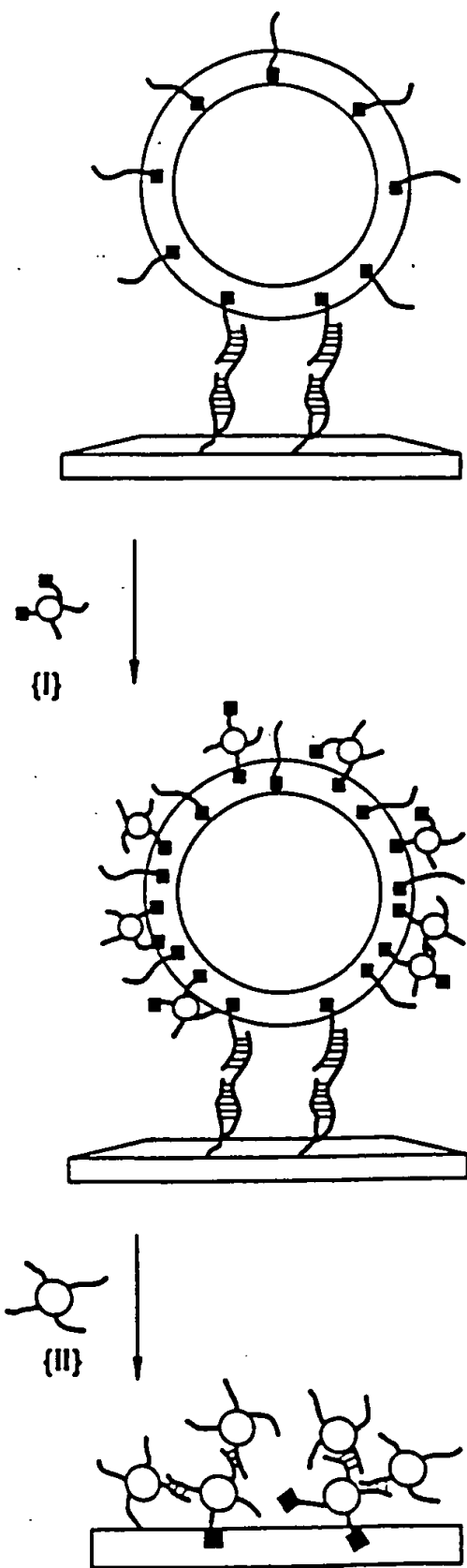


FIG.19A

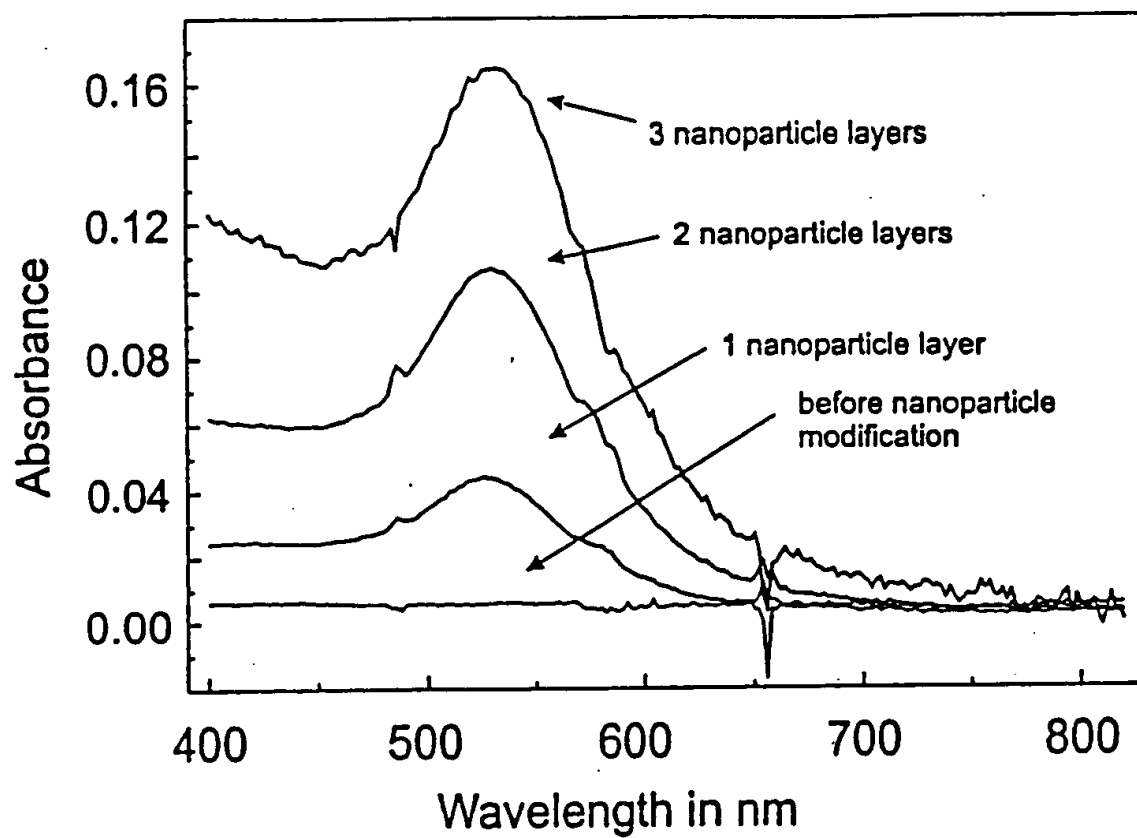


FIG.19B

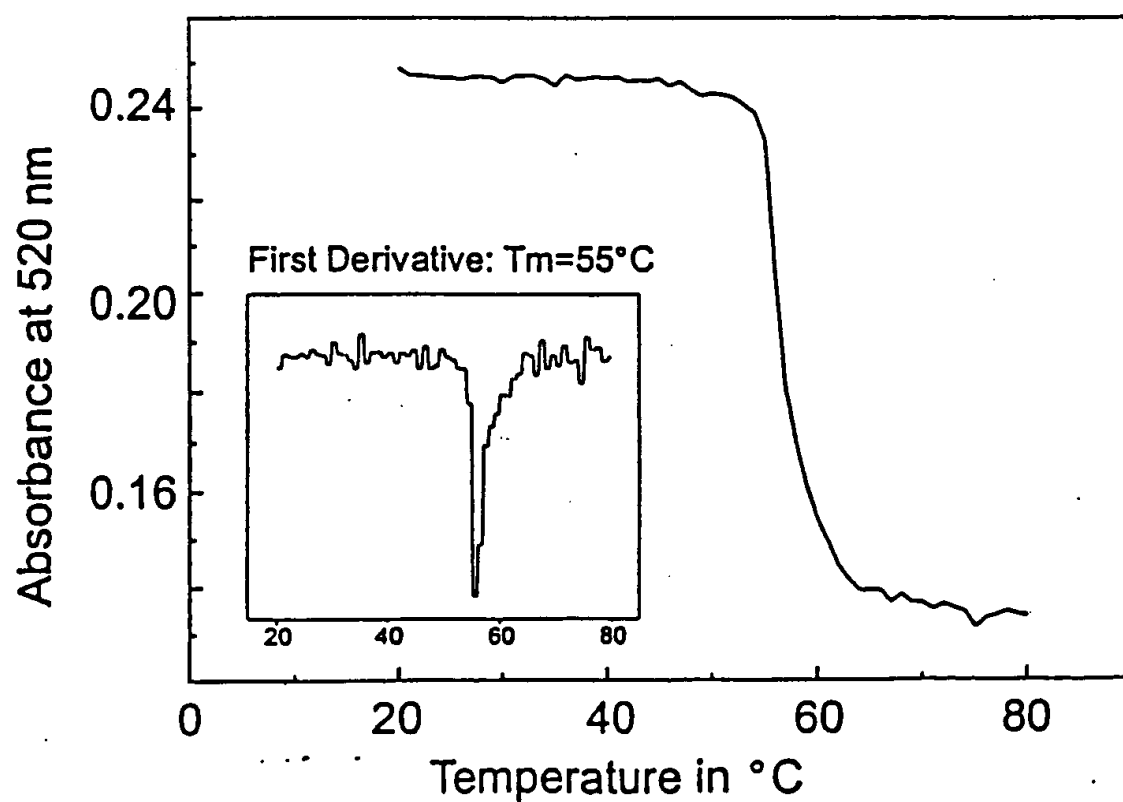


FIG.20A

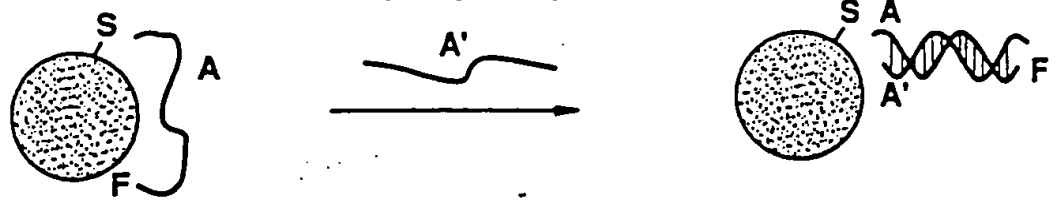
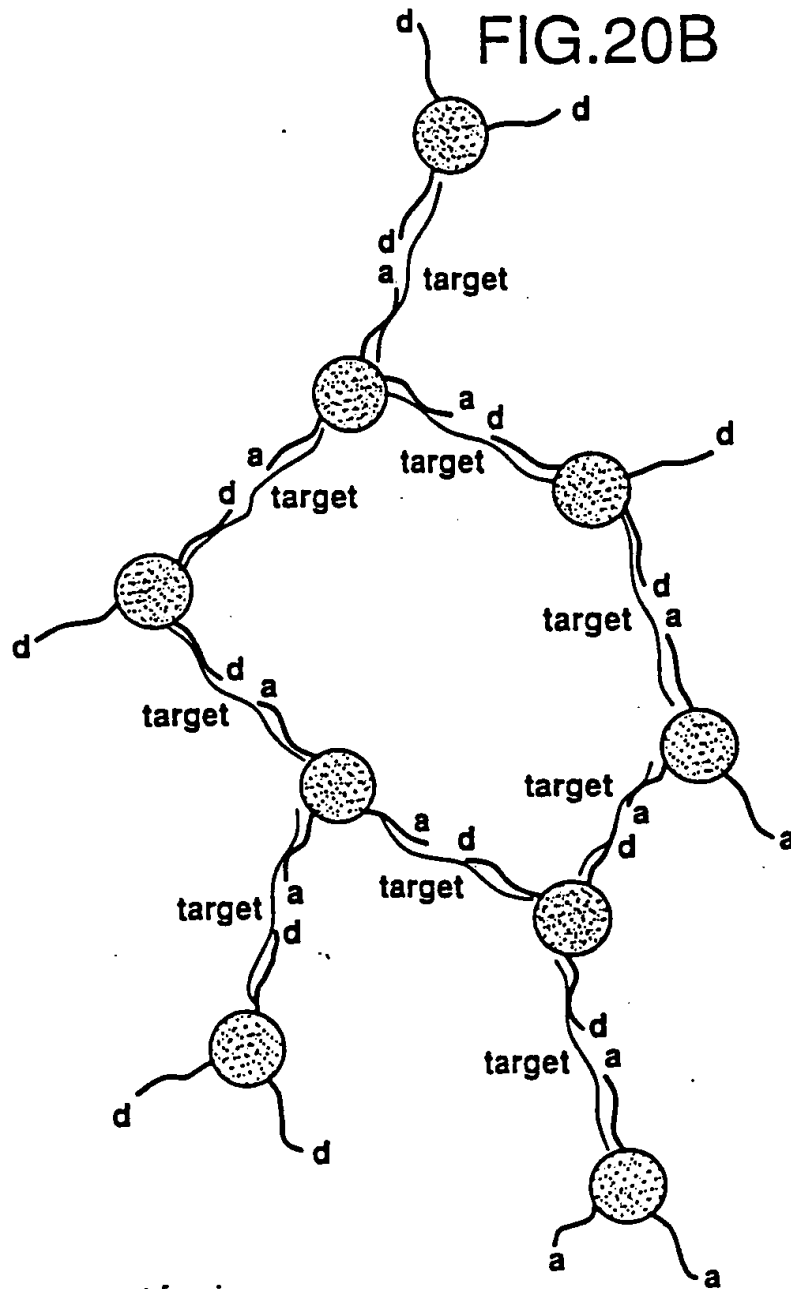
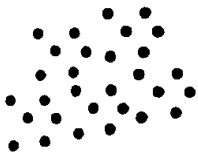


FIG.20B

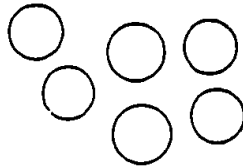


Oligonucleotide
modified Au
nanoparticle probes



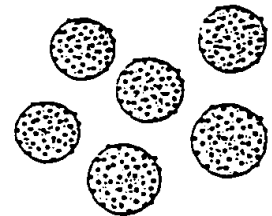
Red

Fluorophore labeled
oligonucleotide modified
latex probes



White/Fluorescent

Au/Latex hybrid

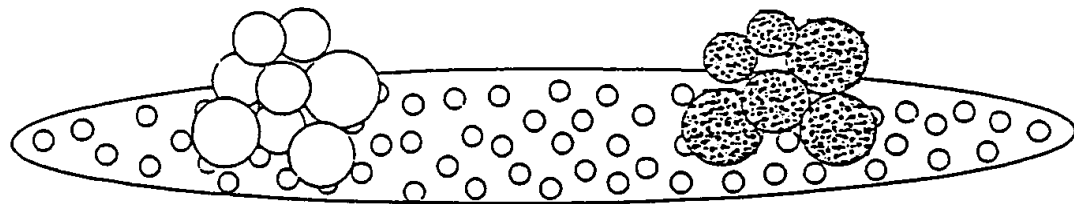


Pink/Non-fluorescent

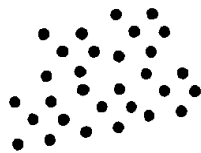
Target
Oligonucleotide

No Target
Oligonucleotide

Target
Oligonucleotide



All Au probes pass
through membrane

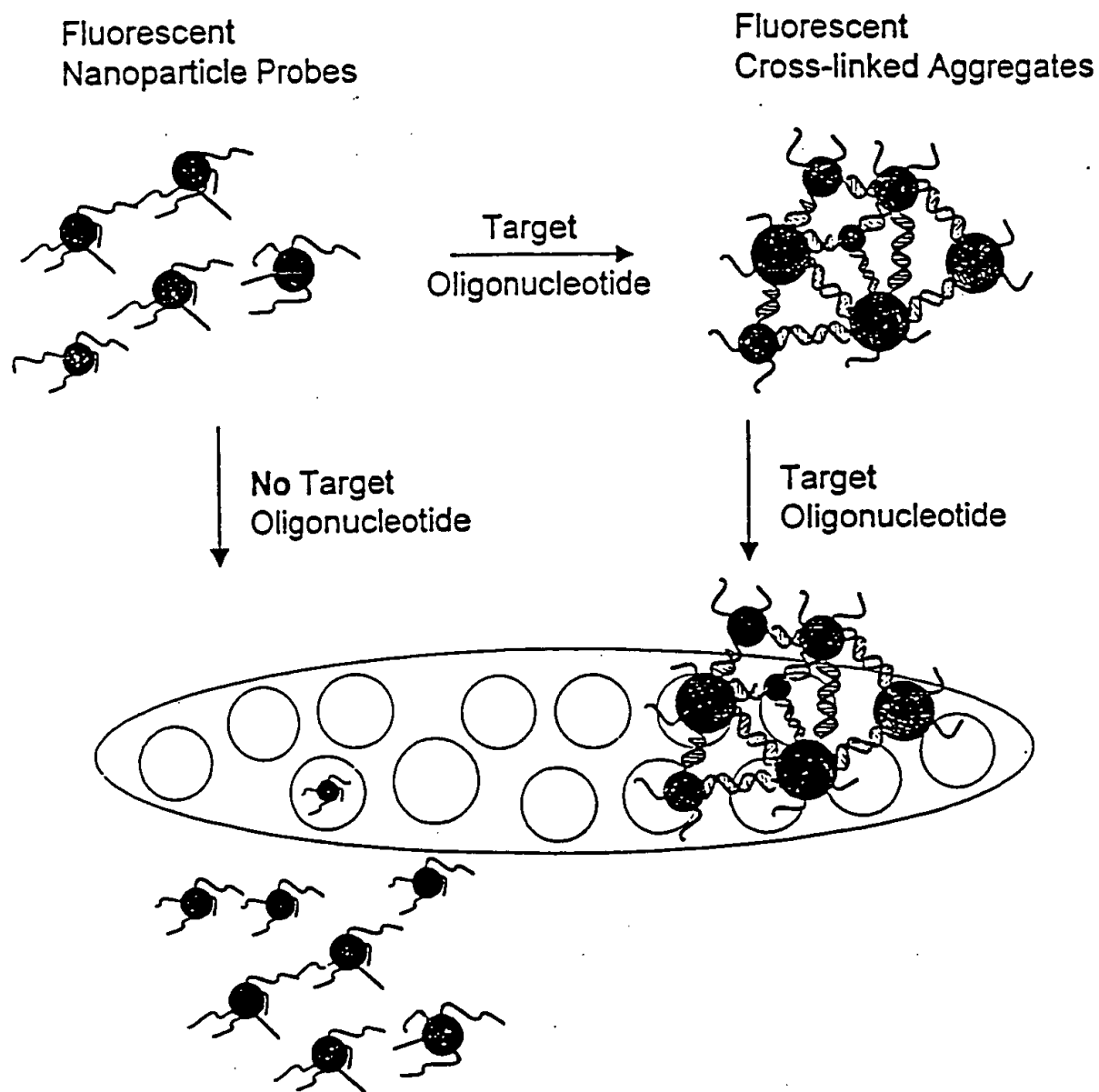


Excess Au probes
pass through
membrane



FIGURE 21

FIGURE 22



The fluorescent nanoparticle probes pass through the membrane

The fluorescent cross-linked aggregates are retained by the membrane

Anthrax PCR Product

5'G GCG GAT GAG TCA GTA GTT AAG GAG GCT CAT AGA GAA GTA ATT AAT
3'C CGC CTA CTC AGT CAT CAA TTC CTC CGA GTA TCT CTT CAT TAA TTA

TCG TCA ACA GAG GGA TTA TTG TTA AAT ATT GAT AAG GAT ATA AGA AAA
AGC AGT TGT CTC CCT AAT AAC AAT TTA TAA CTA TTC CTA TAT TCT TTT

ATA TTA TCC AGG GTT ATA TTG TAG AAA TTG AAG ATA CTG AAG GGC TT 3'
TAT AAT AGG TCC CAA TAT AAC ATC TTT AAC TTC TAT GAC TTC CCG AA 5'

141 mer Anthrax PCR product [SEQ ID NO:36]



3' CTC CCT AAT AAC AAT

[SEQ ID NO:37]



3' TTA TAA CTA TTC CTA

[SEQ ID NO:38]

Oligonucleotide-Nanoparticle Probes

Blocker Oligonucleotides

3' C CGC CTA CTC AGT CAT CAA TTC CTC CGA GT	[SEQ ID NO:39]
3' A TCT CTT CAT TAA TTA AGC AGT TGT	[SEQ ID NO:40]
3' TAT TCT TTT TAT AAT AGG TCC CAA TAT	[SEQ ID NO:41]
3' AAC ATC TTT AAC TTC TAT GAC TTC CCG AA	[SEQ ID NO:42]

FIGURE 23

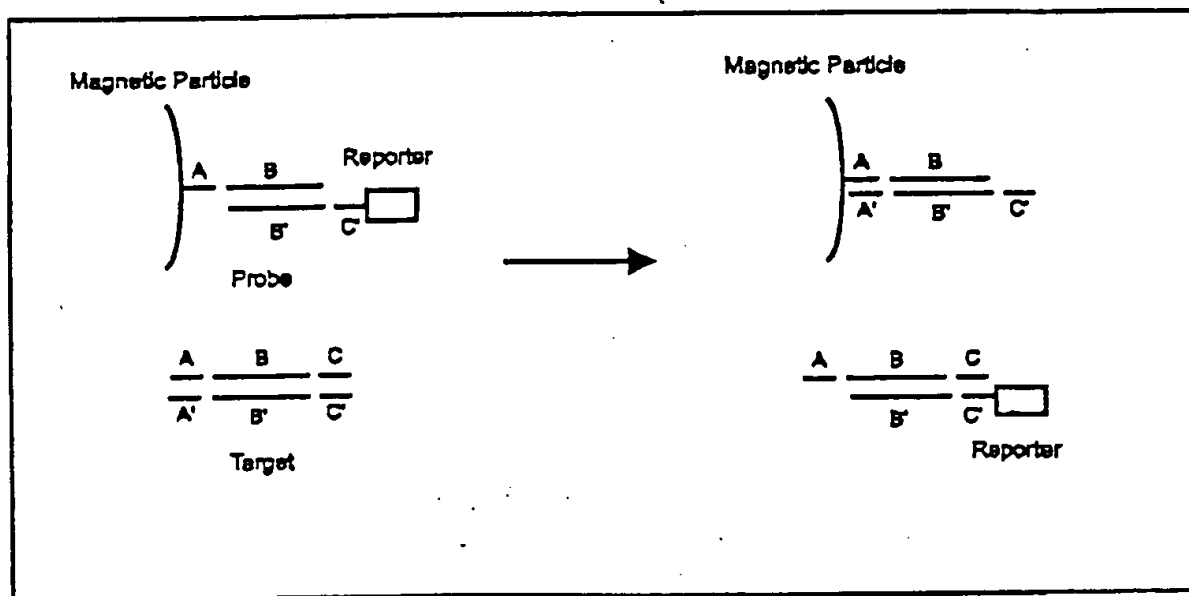
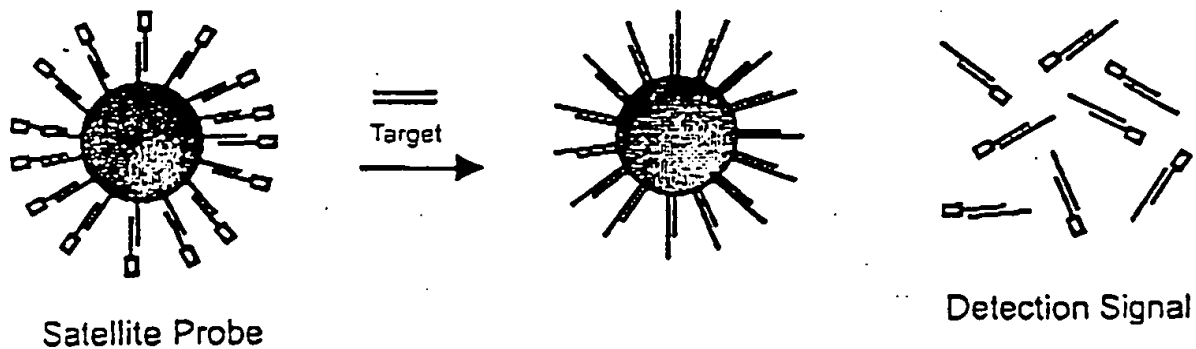


FIGURE 24

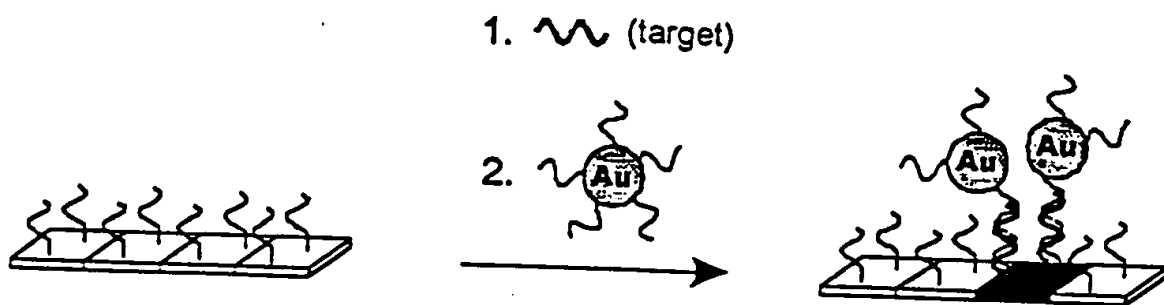


FIGURE 25A

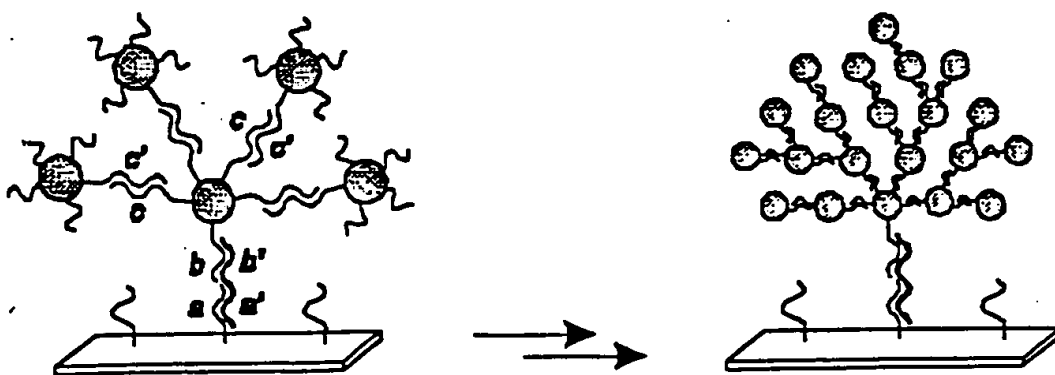
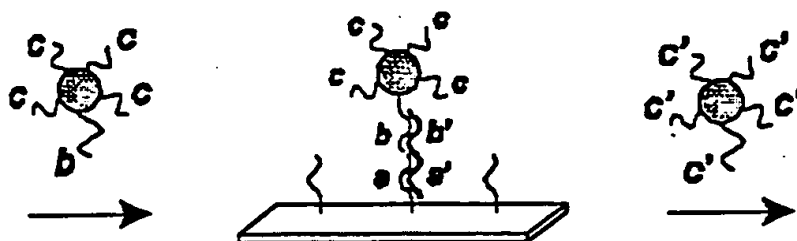
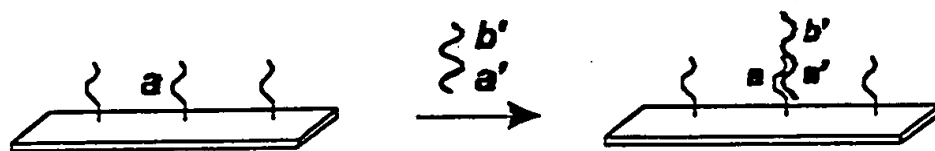
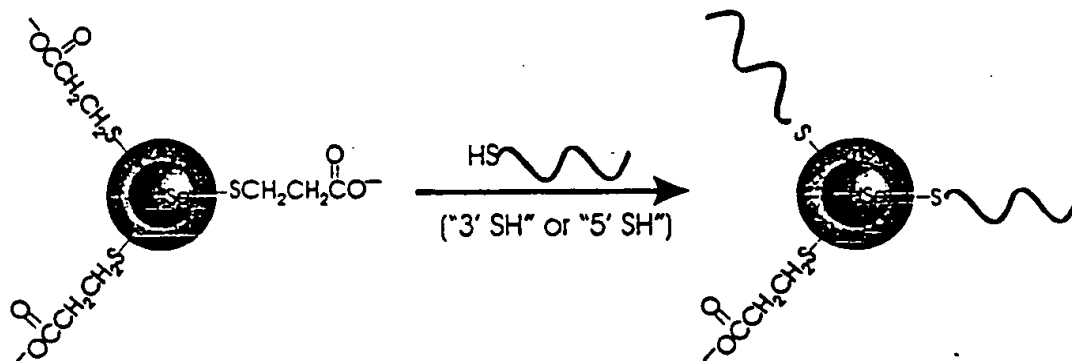


FIGURE 25B

A



B

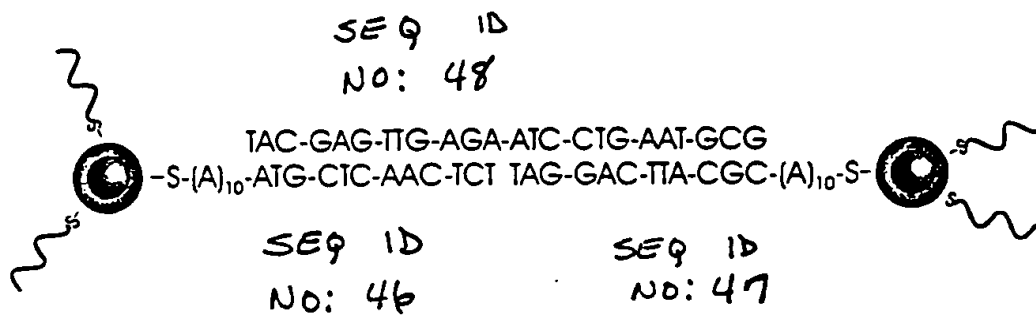
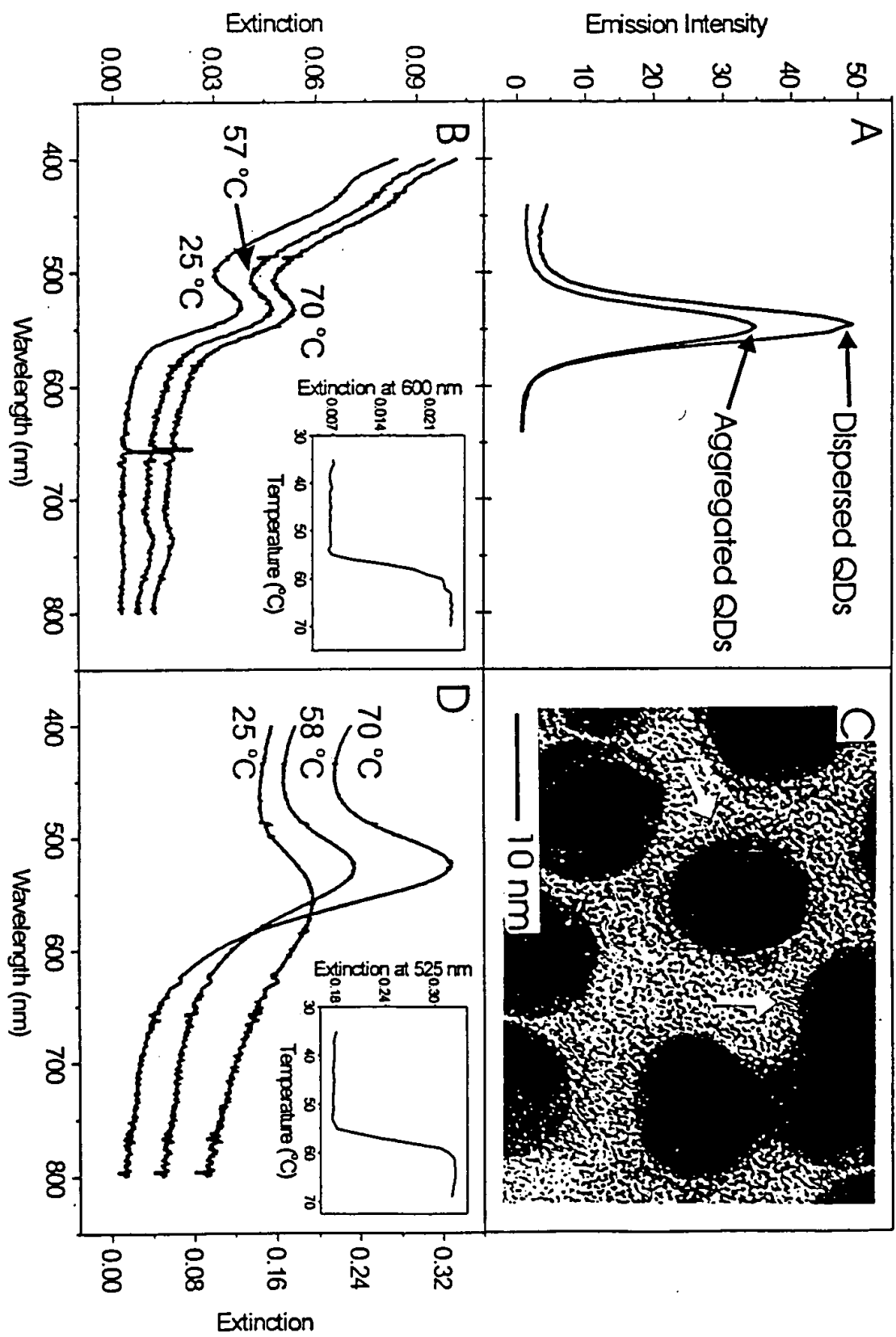


FIGURE 26



155115
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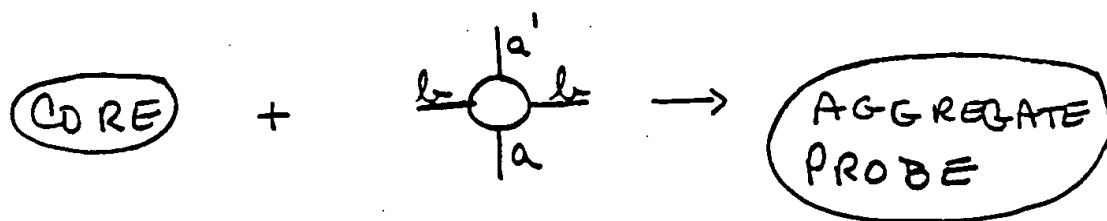
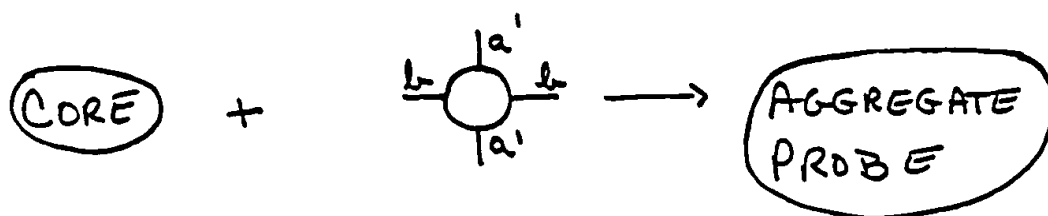
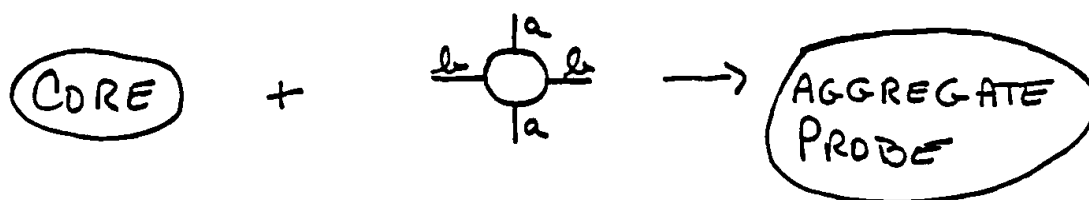
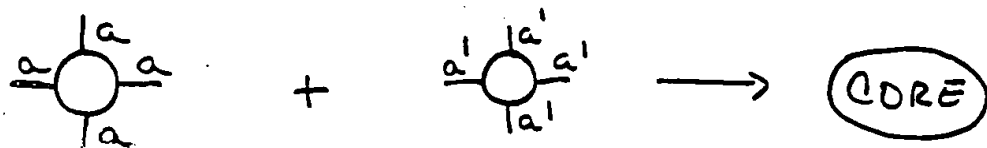


FIGURE 28A

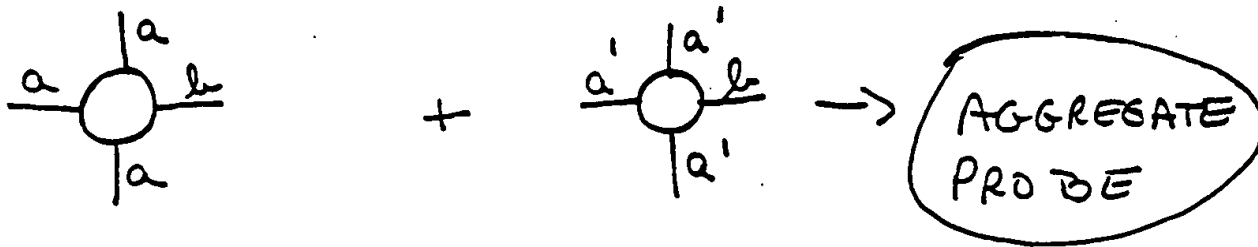


FIGURE 28B

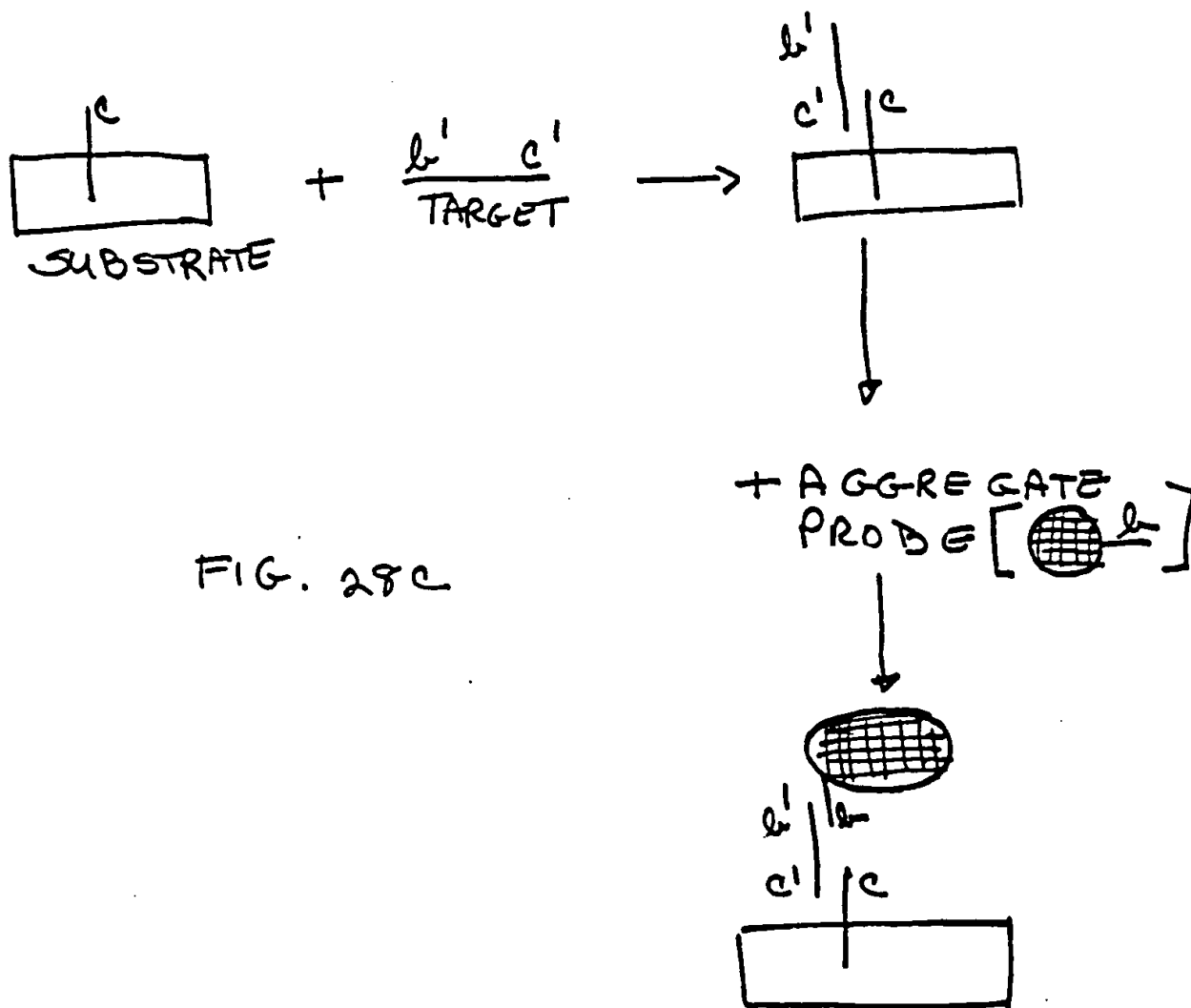



FIG. 28C


 AGGREGATE
 PROBE

+ $\frac{b' \quad c'}{\text{TARGET}}$ + $\begin{array}{c} c \\ \circ - d \end{array}$

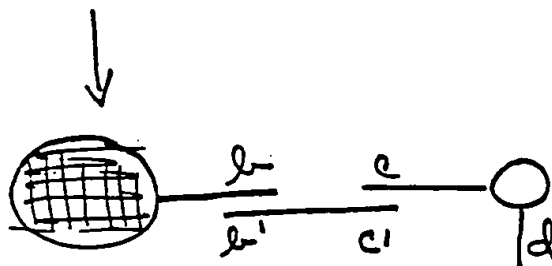
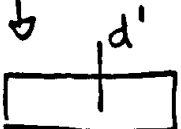


FIG. 28D

REMOVE EXCESS
 BY CENTRIFUGATION



+  SUBSTRATE

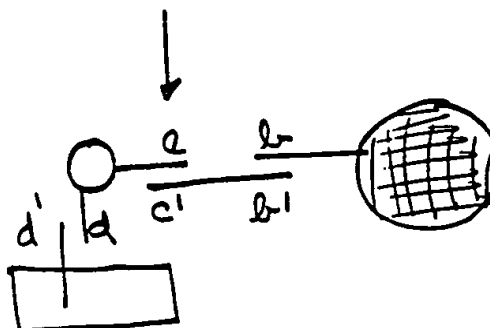


FIG. 28D

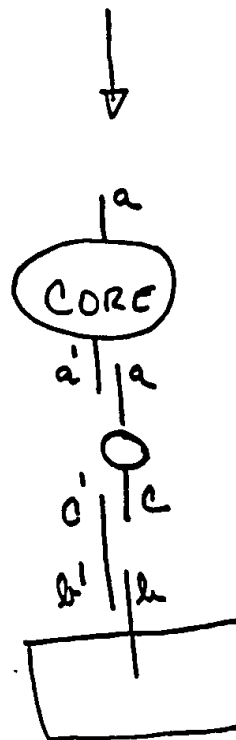
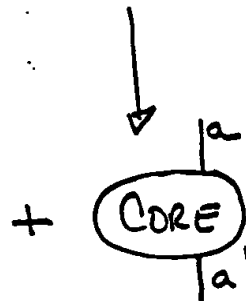
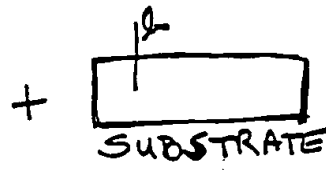
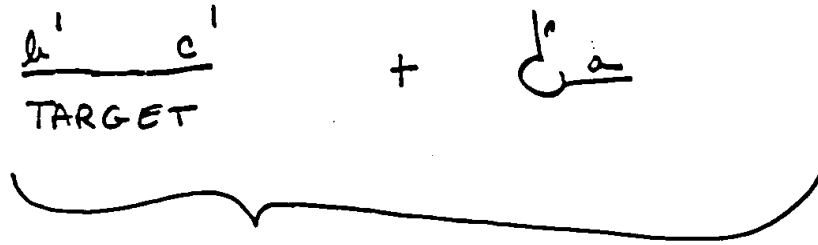


FIGURE 28E

0003604 104394
F0E10F 1053600

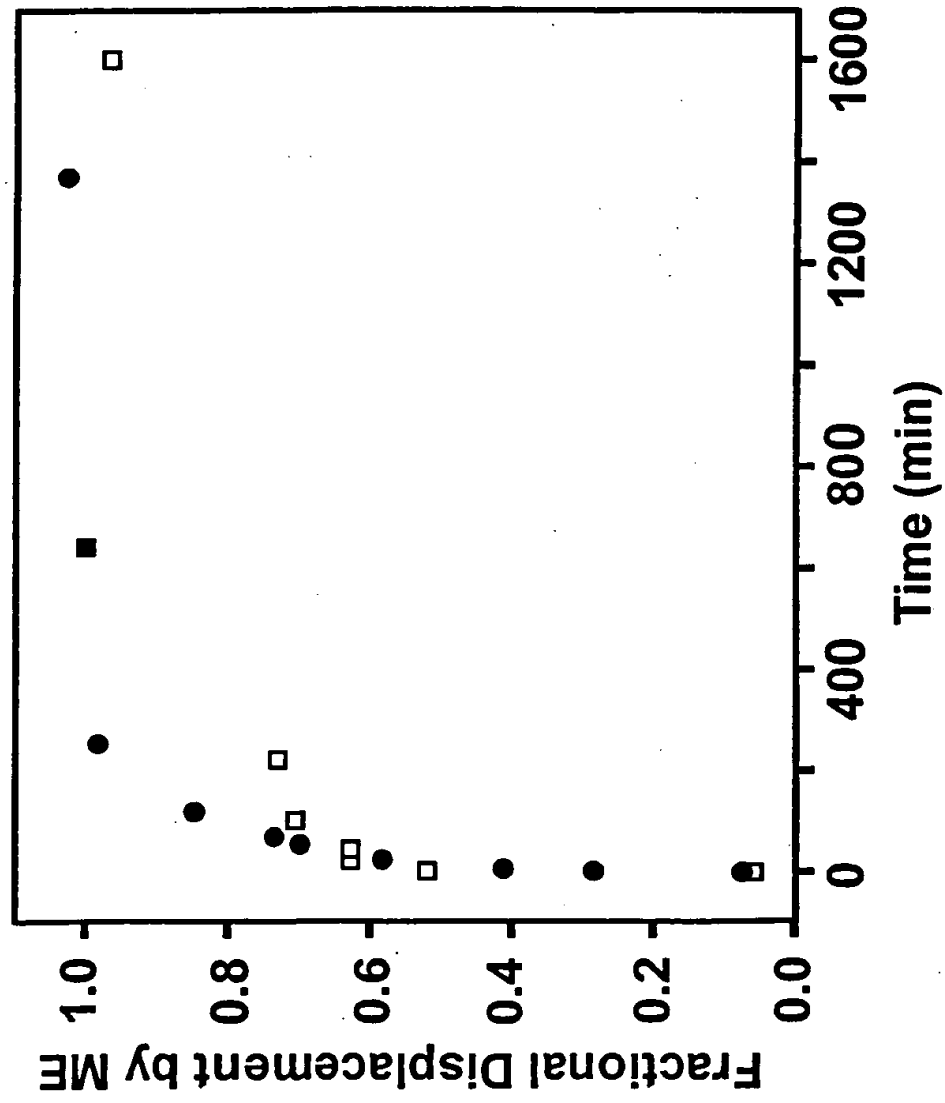


Figure 29

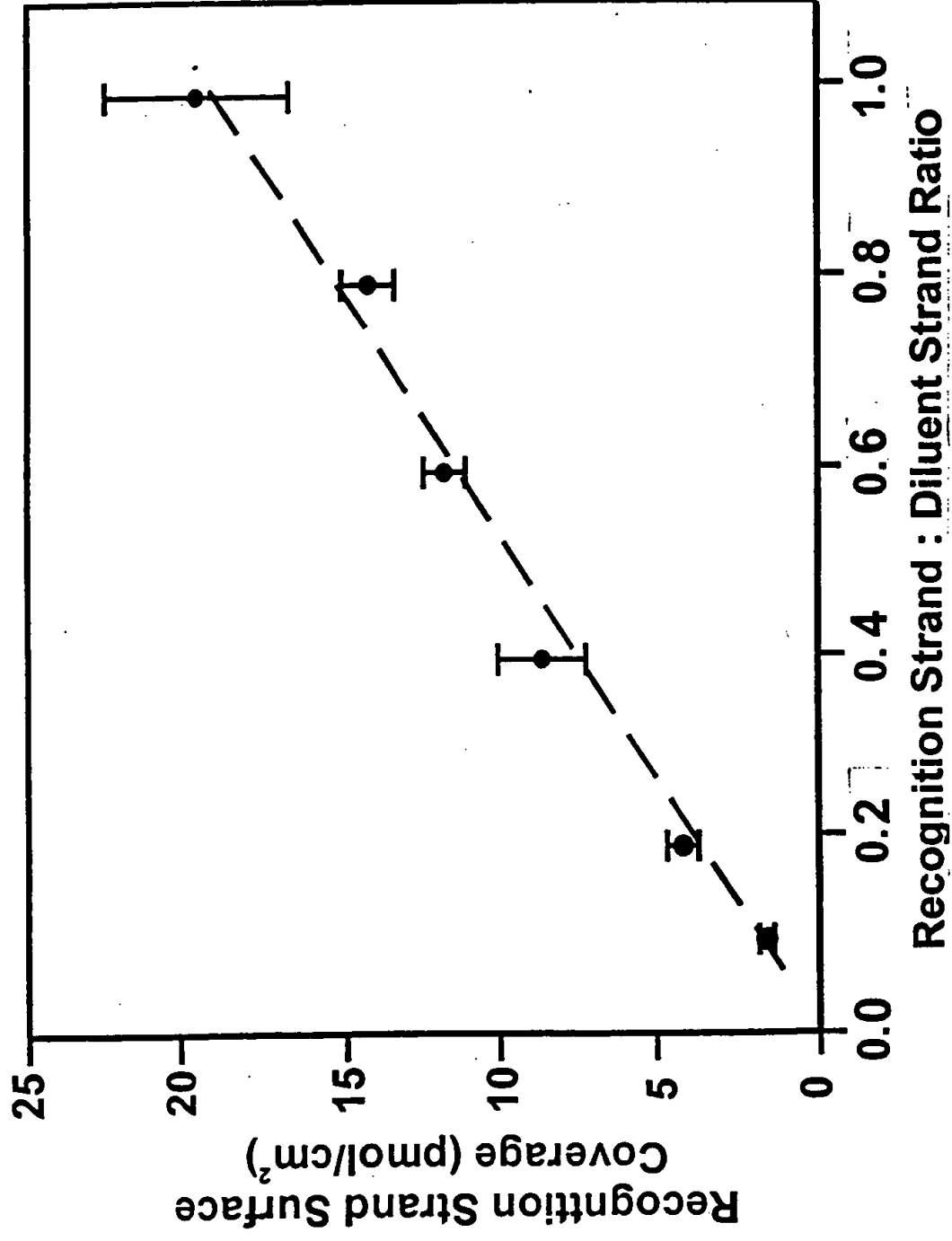


Figure 30

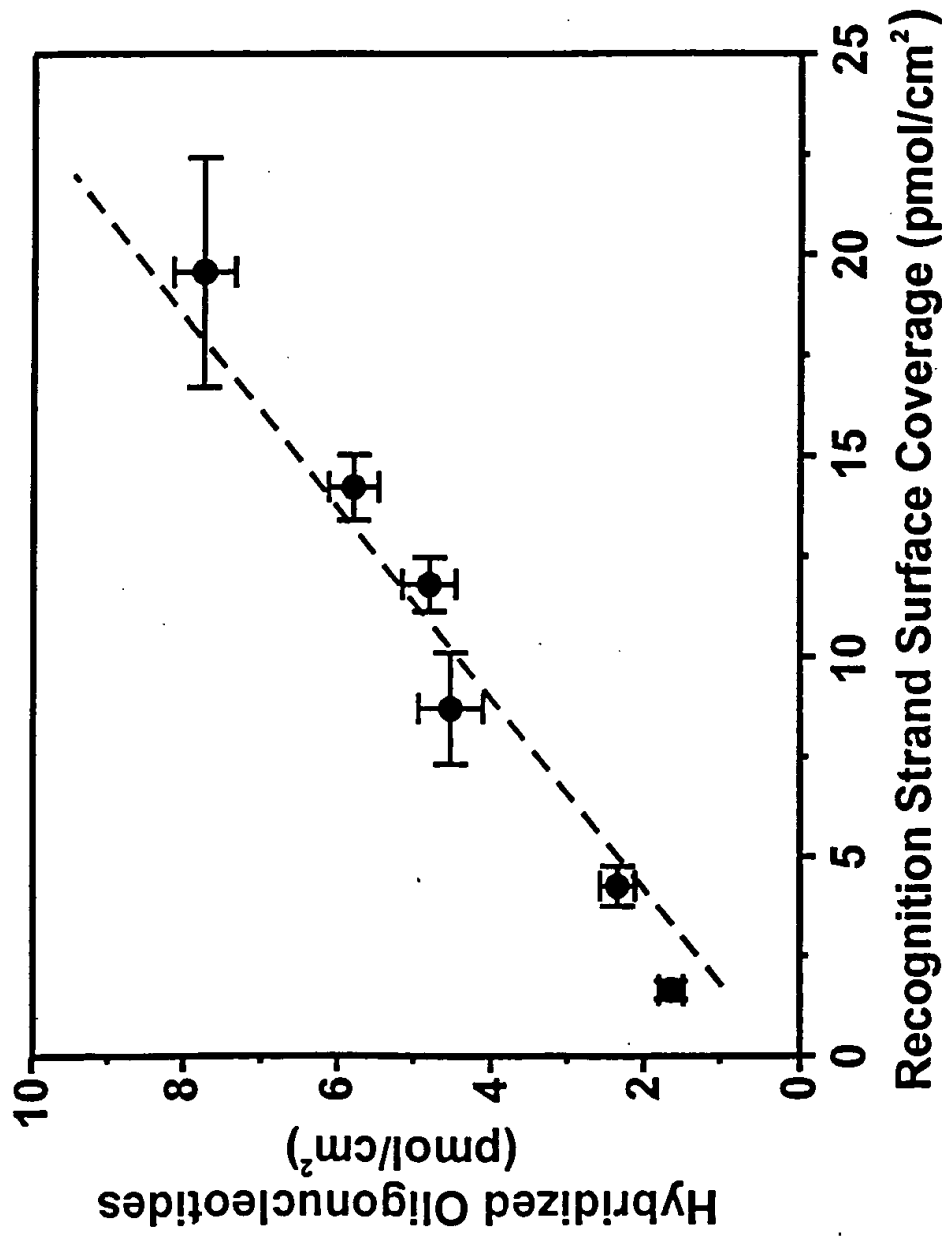


Figure 31

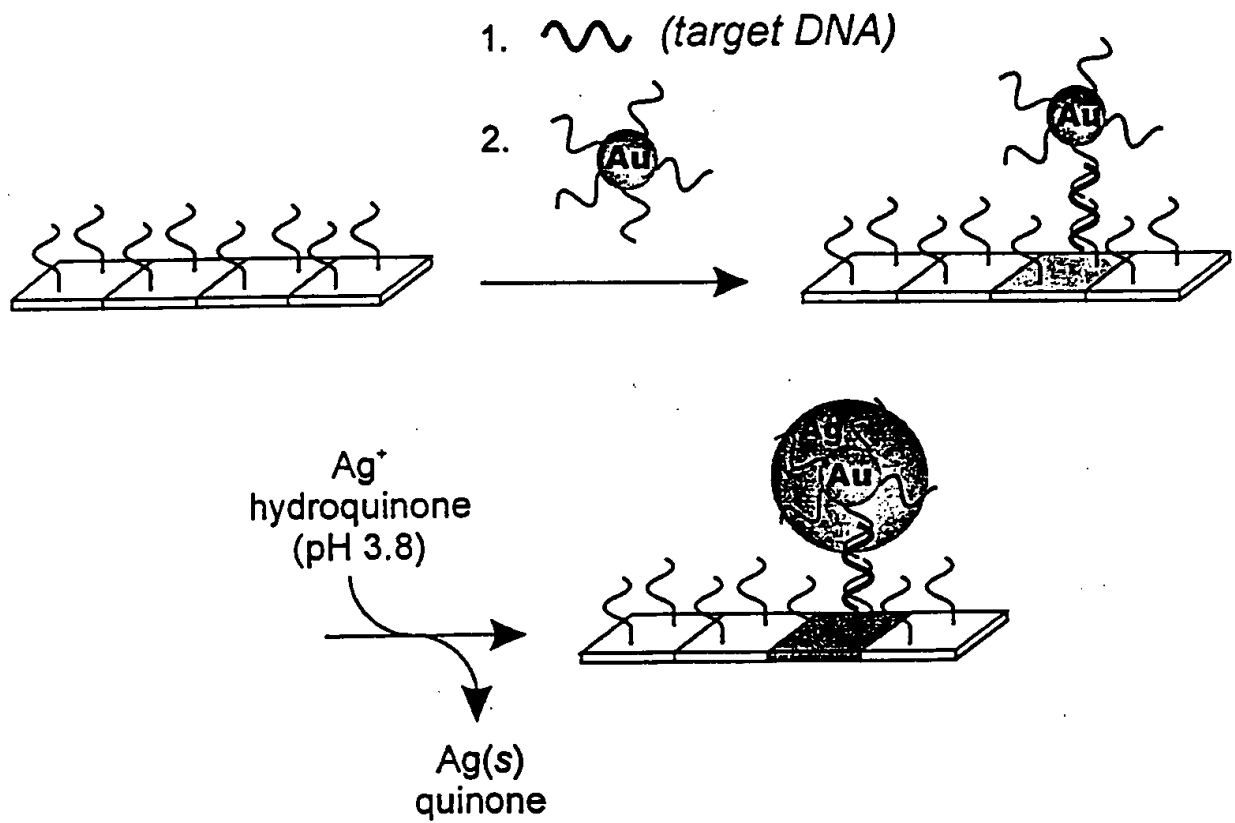
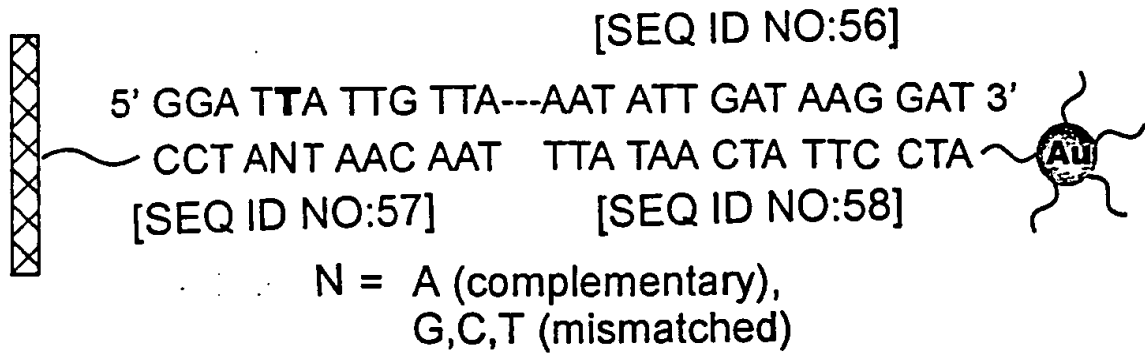


Figure 32

00075501-101304
FOUO FOUO FOUO

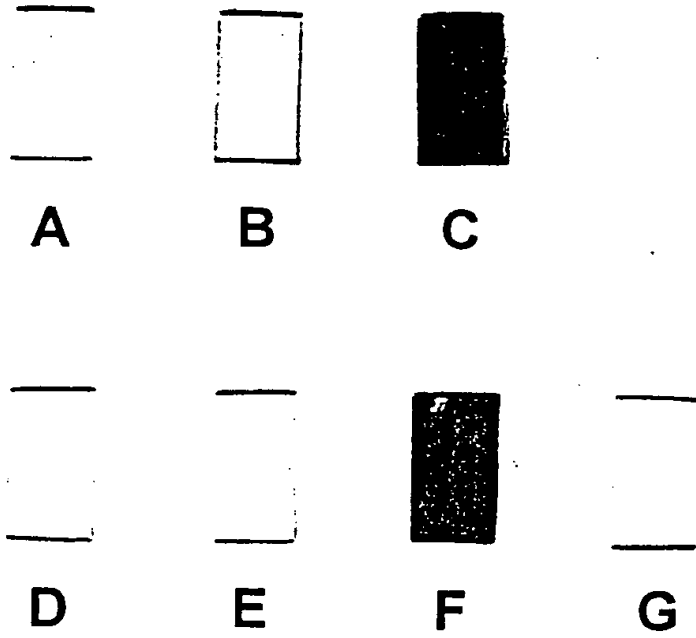


Figure 33

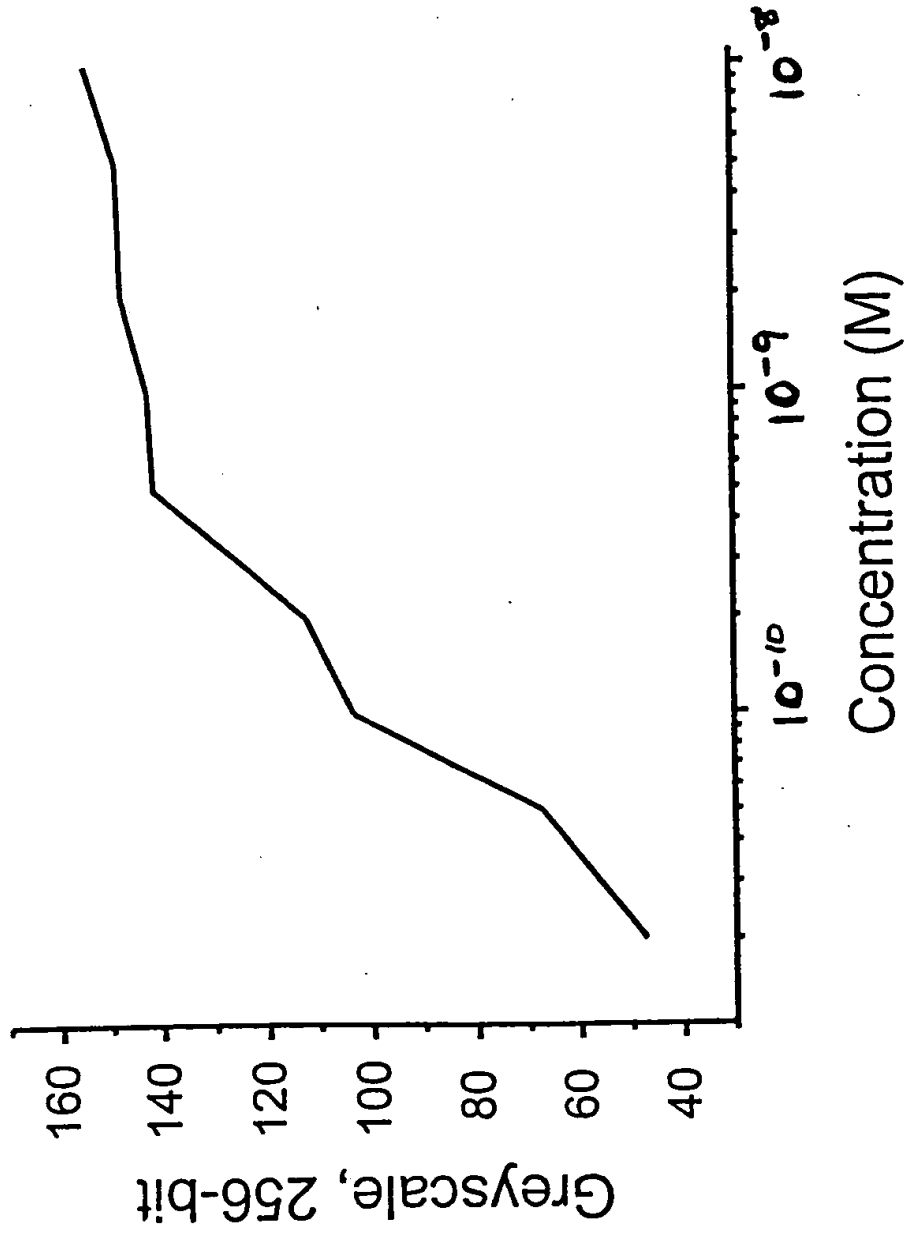
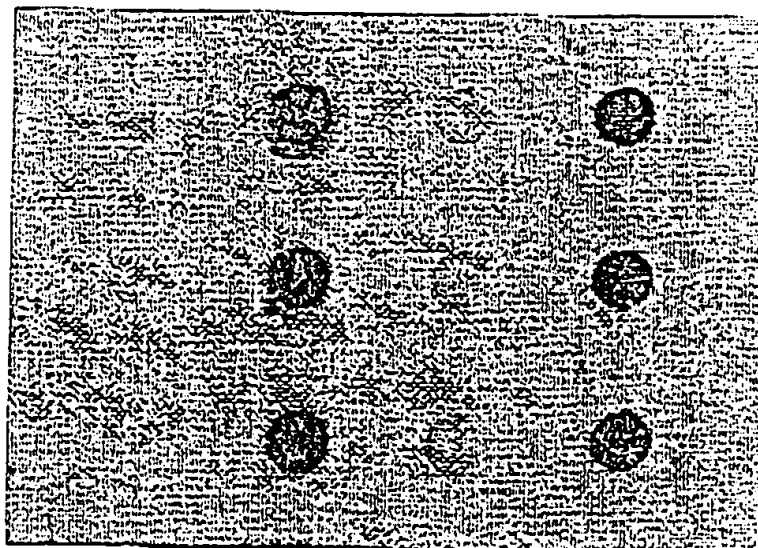
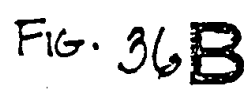


Figure 34

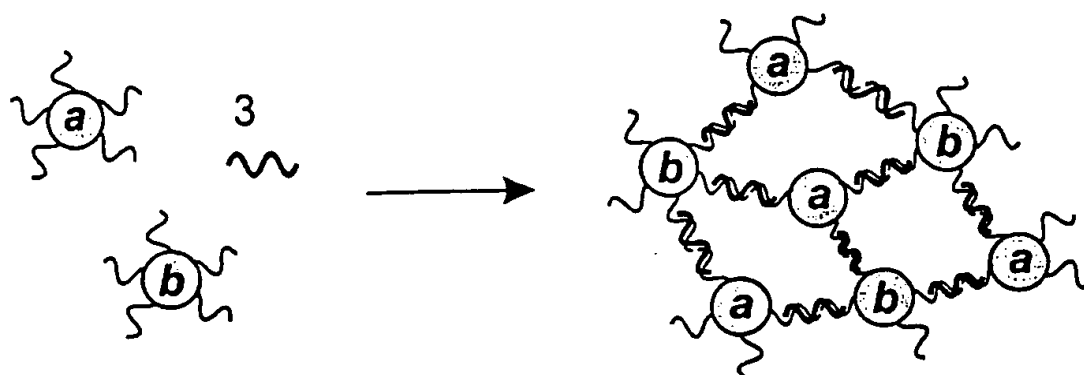
Figure 1 consists of two panels, A and B, showing thermal denaturation curves. The y-axis is 'Percent Hybridized Label' (0 to 100) and the x-axis is 'Temperature (°C)' (0 to 60). Panel A (top) shows curves for hybrids with 10% RNA. Curve 'r' (random) has a midpoint (open circle) at approximately 35°C and a Tm (dashed line) at approximately 35°C. Curve 'b' (base-paired) has a midpoint at approximately 45°C and a Tm at approximately 45°C. Panel B (bottom) shows curves for hybrids with 20% RNA. Curve 'r' has a midpoint at approximately 45°C and a Tm at approximately 45°C. Curve 'b' has a midpoint at approximately 50°C and a Tm at approximately 50°C.

Figure 35

[illegible]

C A T G

A



B

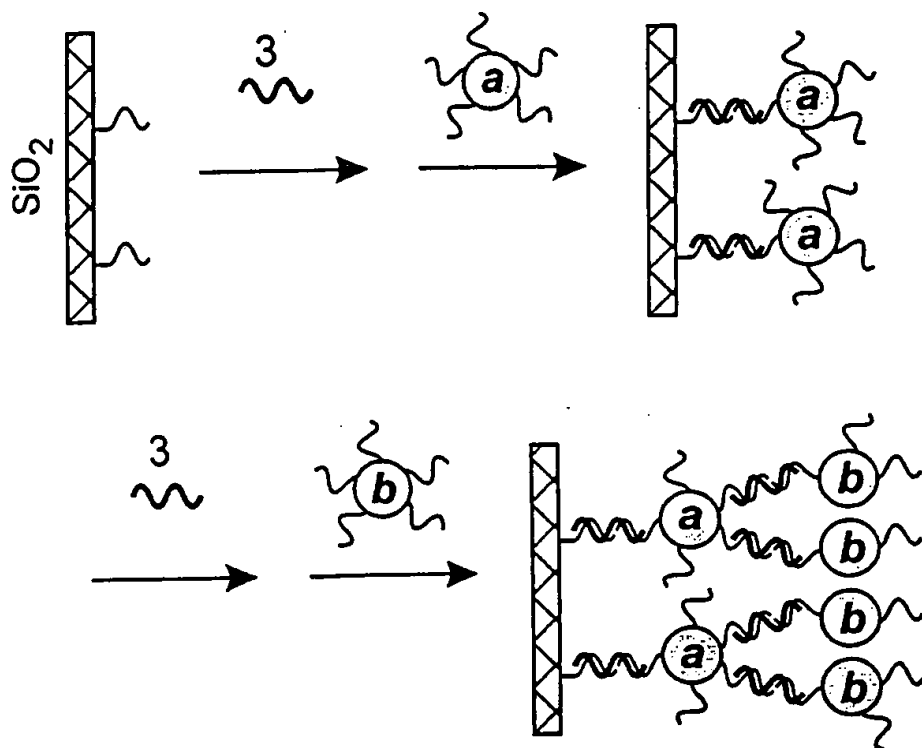


Figure 37

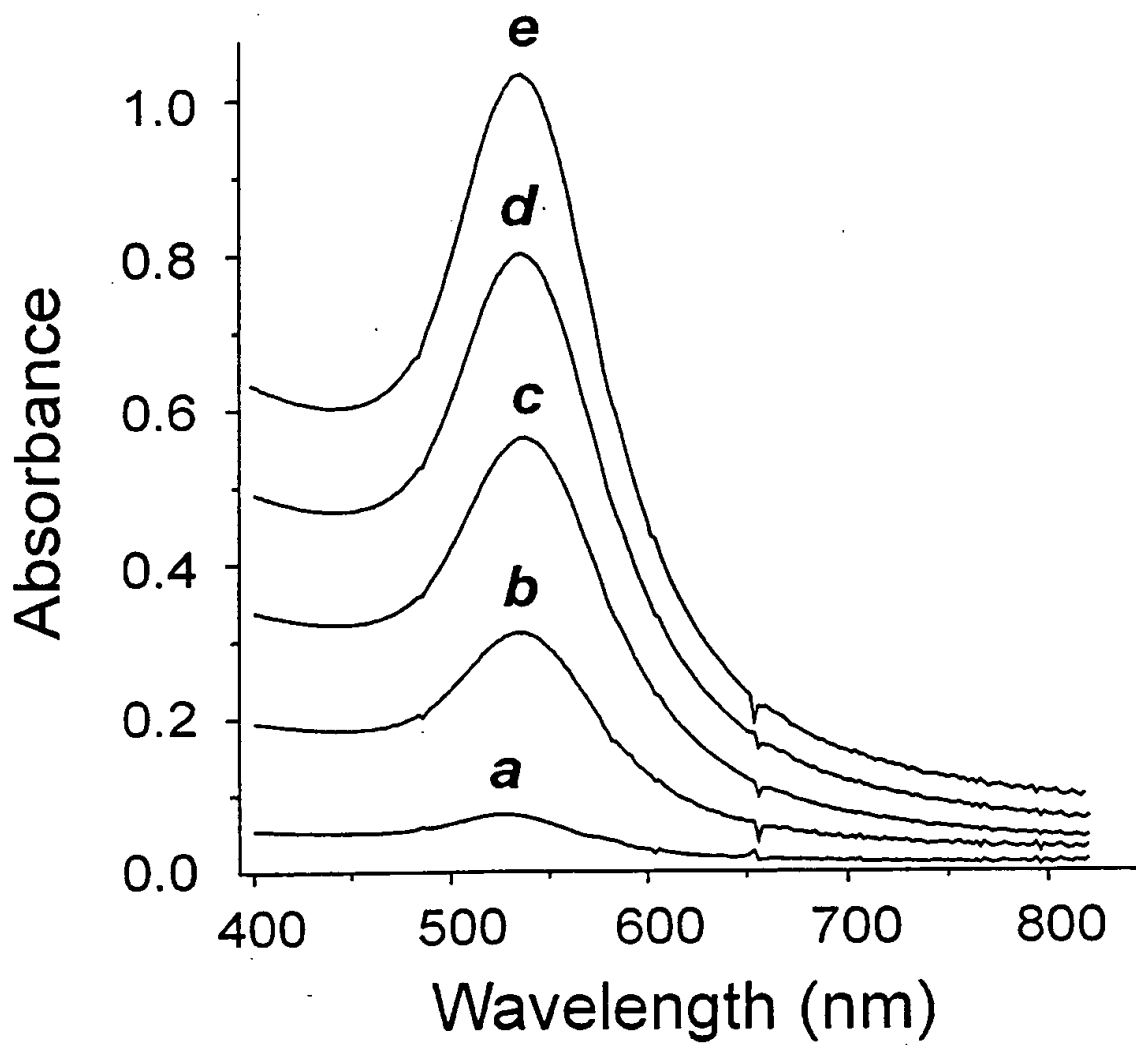


Figure 38A

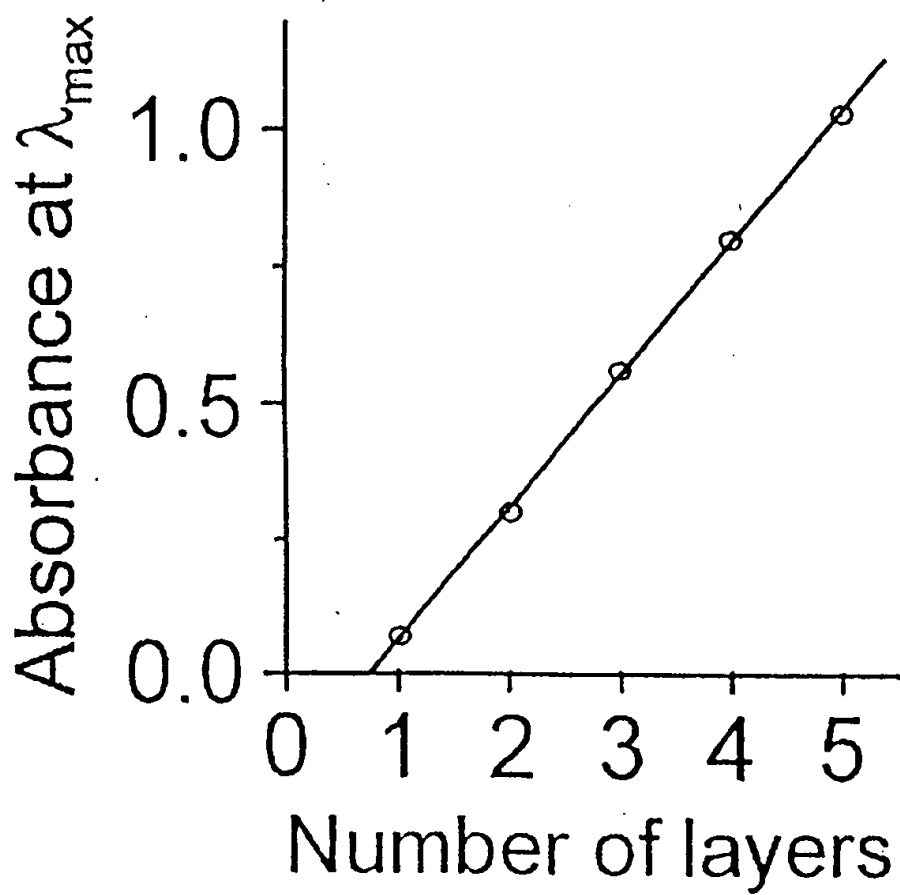


Figure 38B

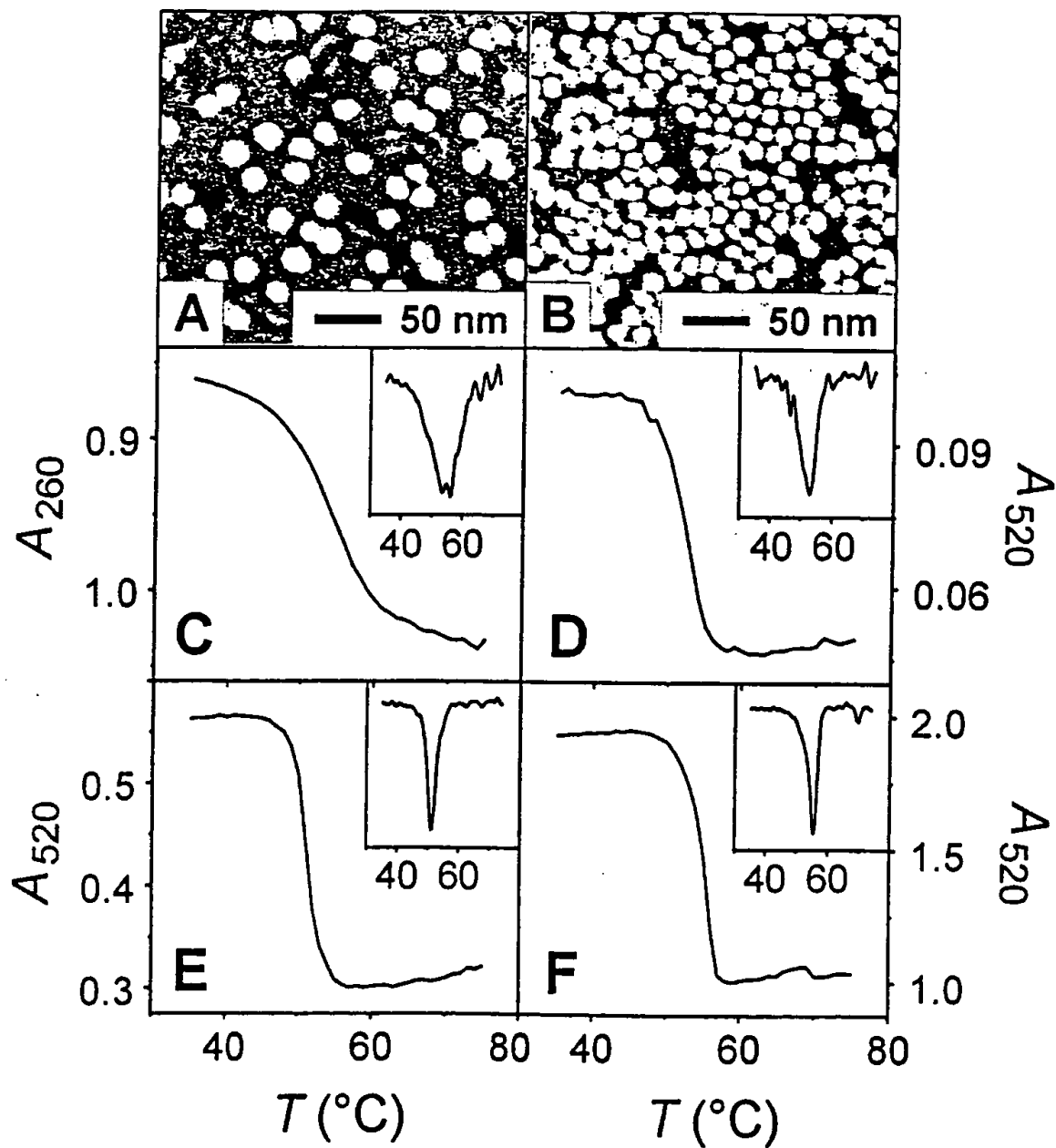


Figure 39

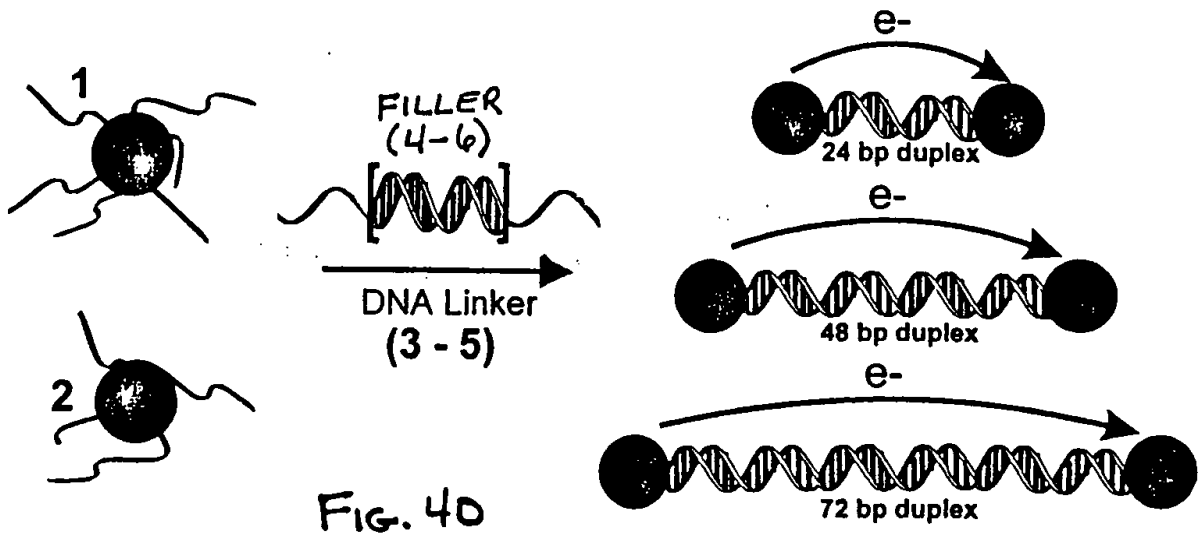


FIG. 40

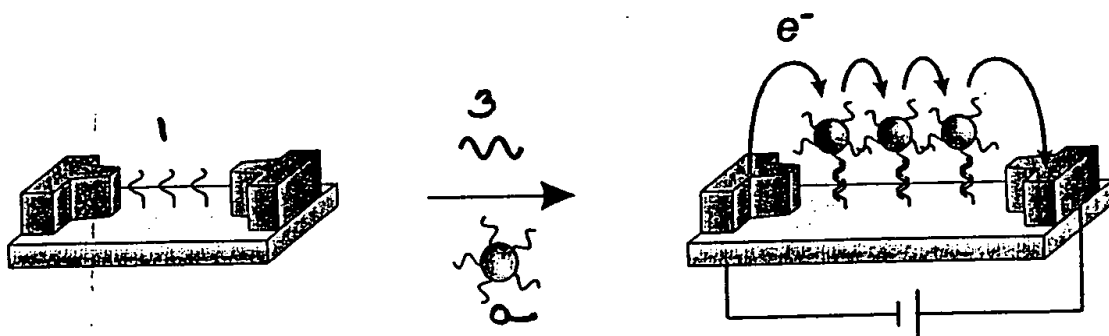


FIG. 41